THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF THE INTERIOR
BUREAU OF HEALTH

ANNUAL REPORT OF THE BUREAU OF HEALTH *for the* PHILIPPINE ISLANDS

FOR THE FISCAL YEAR JULY 1, 1912,
TO JUNE 30, 1913

VICTOR G. HEISER, M. D.
DIRECTOR OF HEALTH
Surgeon, United States Public Health Service

MANILA
BUREAU OF PRINTING
1913

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ORGANIZATION OF THE BUREAU OF HEALTH.

VICTOR G. HEISER, M. D., *Director.*

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(Corner of Calles Palacio and Victoria, Intramuros.)

Director of Health: Dr. Victor G. Heiser.
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  Chief of Records: M. J. Walsh.
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Chief, Property Division: B. D. Burnham.
Assistant Chief, Property Division: Eugenio Viana.

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  Chief Clerk and Cashier: E. Piceda.
Chief of Staff: Dr. W. E. Musgrave.
Chief, Department of Medicine: ——— ———.
  Chief, Division of Clinical Medicine: Dr. W. E. Musgrave.
  Chief, Division of Tropical Medicine: ——— ———.
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Chief, Out-patient Department: Dr. W. E. Musgrave.
  Chief, Free Dispensary Division: Dr. R. E. L. Newberne.
Chief Nurse: Miss Elsie P. McCloskey, R. N.
Superintendent, Philippine Training School for Nurses: Miss Elsie P. McCloskey, R. N.

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(1739 Avenida Rizal.)

Chief of Division: Dr. A. P. Goff.
Physician: Dr. Eliodoro Mercado.
Superintendent: T. L. Lewis.
Chief Nurse: Mrs. Katherine Taulbee.

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Assistant: Dr. A. M. Mañalak.
Chief Nurse: Miss A. M. Little.
In Charge at Iwahig Penal Colony: Dr. M. M. Gallardo.

INSPECTION DIVISION.

(Central Office.)

In Charge: Dr. W. A. Korn.
  Station A, Meisic: Dr. S. V. del Rosario.
    Municipal physicians: Dr. Florentino Herrera, Dr. Canuto Reyes, Dr. Tee Han Kee.
  Station C, Tondo: Dr. T. W. Jackson.
    Municipal physicians: Dr. Proceso Gabriel, Dr. Valeriano Pantoja.
  Station I, Sampaloc: Dr. A. C. Garton.
    Municipal physician: Dr. Francisco Castañeda.
  Station J, Intramuros: Dr. C. E. Norris.
    Municipal physician: Dr. Vicente Cavanna.
  Station L, Paco: Dr. G. B. Angle.
    Municipal physician: Dr. Juan B. Cabarrus.
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  Mosquito suppressive measures (Station J): Sanitary Inspector O. W. Searcy, in charge.

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(Culion, Palawan, P. I.)

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  Physician at colony: Dr. José Martin.
  Steward: E. L. Winslow.

SOUTHERN ISLANDS HOSPITAL DIVISION.

(Cebu, Cebu, P. I.)

Chief of Divison: Dr. Arlington Pond.
  House Physician: Dr. Domingo Santos.
  Superintendent: H. E. Smith.
  Chief Nurse: Miss Ora Bruchmiller.

BAGUIO HOSPITAL DIVISION.

(Baguio, Benguet.)

Chief of Division: Dr. F. W. Vincent.
  Chief Nurse and Superintendent: Miss E. M. Paschall.

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(Bontoc, Mountain Province.)

Chief of Division: Dr. Louis Schapiro (on leave).
Acting Chief of Division: Dr. Henry Pick.
  Chief Nurse and Superintendent: Miss Pearletta Clark.

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(Butuan, Agusan.)

Chief of Division: Dr. Florentino Ampil.
Superintendent: Dr. S. F. Garcia.

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(Sibul Springs, Bulacan.)

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Dr. W. K. Beatty.
Dr. A. C. Garton.
Dr. A. P. Goff.
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Dr. Manuel Foronda.
Dr. Marcelino Gallardo.
Dr. Arturo Garcia.
Dr. Silverio F. Garcia.
Dr. Pacifico Laygo (temporary).
Dr. Jesús V. de Leon (temporary).
Dr. Vicente Rivera Sayo (temporary).

DISTRICT HEALTH OFFICERS.

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Dr. Walter K. Beatty	Vigan, Ilocos Sur.
Dr. Luis Caballero	Lingayen, Pangasinan.
Dr. Andres Catanjal	Tarlac, Tarlac.
Dr. Gilbert I. Cullen	Catbalogan, Samar.
Dr. Jacobo Fajardo (acting)	Dumaguete, Oriental Negros.
Dr. Andres Bautista (acting)	Iloilo, Iloilo.
Dr. Antonio Fernando	Cabanatuan, Nueva Ecija.
Dr. Manuel D. Foronda (acting)	Ilagan, Isabela.
Dr. Arturo Garcia (acting)	Iba, Zambales.
Dr. Gabriel Intengan (acting)	San Fernando, La Union.
Dr. Vicente de Jesus (acting)	Malolos, Bulacan.
Dr. Zach M. Laughlin (acting)	Nueva Caceres, Ambos Camarines.
Dr. Pacifico Laygo (acting)	San Jose, Antique.
Dr. Jesus V. de Leon (acting)	Calapan, Mindoro.
Dr. Manuel Llora (temporary)	Tagbilaran, Bohol.
Dr. Francisco Lopez Lubelza (temporary)	Puerto Princesa, Palawan.
Dr. Jose Losada	Batangas, Batangas.
Dr. Jose Mascuñana	Cavite, Cavite.
Dr. Donato Montinola	Bacolod, Occidental Negros.
Dr. Arlington Pond	Cebu, Cebu.
Dr. Ross S. Rissler (acting)	Tuguegarao, Cagayan.

Dr. Vicente Rivera Sayo (acting)	**San Fernando, Pampanga, Malolos.**
Dr. Buenaventura Toribio	**Surigao, Surigao.**
Dr. Rafael Villafranca	**Lucena, Tayabas.**
Dr Gabino Vinluan (acting)	**Bayombong, Nueva Vizcaya.**
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ANNUAL REPORT OF THE BUREAU OF HEALTH.

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, July 10, 1913.

SIR: I have the honor to submit herewith the following report, which is a statement, in general terms, of the health and medical work carried on by the Bureau of Health for the year ended June 30, 1913, and the fourteenth annual report of this division of the Government of the Philippine Islands.

THE PRINCIPAL EVENTS OF THE YEAR.

A review of the medical and health work, the statistics of a part of which will be found in the appendix to this report, again shows steady progress along all lines heretofore pursued, and the opening of many new fields. In brief, another chapter of accomplishment is added, in the physical improvement and alleviation of suffering of the people of the Philippine Islands.

Health conditions for the entire Archipelago have been excellent. No serious epidemic of disease occurred, with the exception of isolated cases of plague in the city of Manila. The effective manner in which the Bureau was able to cope with plague wherever it appeared again demonstrated the efficiency of the present plan of organization. At one time the rats of the Tondo district became heavily infected, and in the days when the control of plague was less well understood a large outbreak would in all probability have occurred.

Additional duties have been imposed upon the Bureau by the Legislature by placing the Southern Islands Hospital under its jurisdiction and making it directly responsible for caring for and safeguarding the rights of insane and alleged insane persons. As no appropriation whatsoever has been made providing for the care of additional insane, the difficulty of providing relief for many of the cases which came to the attention of the Bureau may readily be appreciated. Frequently funds have to be diverted from other worthy purposes in order to meet the needs of a particularly urgent case.

The demands for medical relief and health work continue to grow at a much more rapid pace than appropriations for these purposes become available. When the meager funds available in the Philippines are compared with the larger amounts in many other countries, it is indeed remarkable that such excellent results have been obtained with the existing facilities. An important factor in the successful results obtained has been the aid received from practically every branch of the Government in promoting health work which often makes it possible to accomplish more for a peso here than is the case elsewhere.

One of the great regrets of the year has been the failure of the Legislature to give the remedy a trial, by which it is believed at least 25,000 deaths per annum, that are due either directly or indirectly to beriberi, might be avoided.

Act 2156, which was passed during the last fiscal year by the Legislature, which had for its object the improvement of provincial health conditions, has not produced the results which were so confidently hoped for it. This failure has been largely due to opposition by provincial boards, based on their belief that the state of their finances would not permit the adoption of the plan.

The careful physical examination of applicants for appointment in the classified Philippine Civil Service has resulted in the elimination of many persons physically unfit, particularly on account of tuberculosis, and it is believed that the enforcement of this policy will still further lower the morbidity rate among Government employees.

Improvement in the municipal police service in the provinces has resulted in finding many additional cases of leprosy. Unfortunately, however, the number of lepers that escape from the municipal police is still discouragingly large, so that so long as the centers of infection of this kind remain uncontrolled, it is evident that the decrease in the number of new cases of leprosy cannot be as rapid as was anticipated.

The demands for additional facilities for treating the many patients who apply for relief at the out-patient department of the Philippine General Hospital made it necessary that additional space be provided; accordingly, the sum of ₱80,000 has been set aside for this purpose. Plans have been completed and the construction of the new addition to the dispensary is shortly to begin. The Legislature also appropriated the sum of ₱25,000 for the enlargement of the kitchen at the Philippine General Hospital so that a more adequate course in dietetics may be given to the pupils of the nurses' training school. The general extension of a better knowledge of cooking among the people is bound to have a most important influence upon bettering health conditions and making life more liveable and enjoyable.

THE WATER SUPPLY OF THE CITY OF MANILA.

As the dry months of March and April approached, Manila was again threatened with a shortage of water and it was necessary to make arrangements for using the Santolan pumping station, by which water from the polluted Mariquina River may be pumped into the city reservoirs. Fortunately, a timely rain averted this predicament the first time it threatened and the flume saved the situation a number of times afterwards. One of the difficulties with the new reservoir is the fact that, owing to the large number of cracks and crevices in the cliffs which form its sides and bottom, practically one-half of the water which comes to the dam escapes. In order to overcome this, as well as to make it possible to clean the dam from time to time, it was proposed, a number of years ago, to build a flume which would carry the water from a point above that at which it escapes directly to the main pipe line below. The flume was first used about May 2, 1913, and to it the chief credit is due for making it unnecessary to use Mariquina water. The seriousness of the matter of providing an adequate and at the same time a safe water supply will be appreciated when it is recalled that each time that it has been necessary to use Mariquina water, because there was not enough water to be had from the regular source of supply, there has been a decided increase in the death rate, this varying, in round numbers, from 150 to 200 deaths per month.

HEALTH A PURCHASABLE COMMODITY.

There have been many facts connected with the administration of health work in the Philippine Islands during the past year that strongly support the contention so frequently made by modern sanitarians that health is a purchasable commodity. For instance, the installation of artesian wells produced a definite reduction in the death rate and a great improvement in the sick rate in communities in which such water was used. The regular routine use of quinine among the inmates of the Iwahig Penal Colony clearly demonstrated that, in spite of the fact that malaria of a most severe type is present on all sides and caused a high death rate, yet the inmates of the colony are as healthy as the people of New York. The elimination of intestinal parasites among a given thousand inhabitants produces a marked improvement in general health. In Manila, in spite of the fact that smallpox is constantly imported and formerly hundreds died annually, there has not been a single death from this disease, because the population is kept thoroughly vaccinated. In those sections of Manila in which the housing conditions of the poor were improved there was a marked betterment in the general health of the persons who lived in such sections. The lowering of the death rate of the city of Manila when water from the uninhabited watershed is used and the increase in the rate when ordinary river water is used has been unintentionally demonstrated a sufficient number of times to leave no room for doubt that the new water system is worth all that it cost in the number of human lives which it saves.

Briefly, by the expenditure of a definite sum of money a definite lowering of the death rate can be produced.

PUBLICITY.

The Bureau has been fortunate, owing to the absence of the more dangerous communicable diseases in epidemic form, in finding itself with sufficient time to prepare more health literature for public distribution than has been the case heretofore. A pamphlet was prepared entitled "Philippine Habitations," which has had a wide circulation. Another pamphlet entitled "Insects and Disease" is being taught in the public schools and no doubt much good will result from the spread of the information that malarial fever is conveyed by a definite kind of mosquito; that filariasis is transmitted by another, etc. The circular formerly issued on dysentery has been revised and rewritten and its provisions now correspond with the more recent advances made in the prevention of this disease. Another pamphlet was prepared on beriberi, which has for its object the awakening of the public to the fact that beriberi occurs among those who use polished rice as a staple article of diet. An illustrated pamphlet on the "Poisonous Fishes of the Philippines" has been issued. An illustrated booklet on the Philippine General Hospital has been printed which shows the floor plans effectively in black and white and also many different photographs of the institution. Perhaps the largest undertaking of the year was the preparation of a Sanitary Inspectors' Handbook which is now in press. A revised book of rules for the Philippine General Hospital was printed. Also a general circular of information with regard to the Philippine General Hospital which gives much information which it is hoped will result in its becoming more useful to the public. Many popular health articles have also been prepared for the public press, which have received wide circulation.

RESULTS ACHIEVED IN CERTAIN LINES OF WORK UNDERTAKEN.

The Bureau has been fortunate in having obtained some excellent results in the treatment of leprosy. Two cases that have been free from the disease for a period of over two years were discharged and a number of others have been free from leprosy for twenty-two months.

A matter of great importance has been the perfecting of a sanitary pail and bringing the cost of its construction, installation, and operation to a figure that is within the means of the average Philippine town to carry into effect. There are excellent prospects that the general use of these pails may result in the saving of many thousands of lives annually. There has also been perfected, after many years of experimentation, a type of range closet of the flush variety which is practicable for public midden sheds, and there is reason to believe that, owing to the simplicity of its design, it can be kept reasonably clean and in effective operation. The matters mentioned in this paragraph will be discussed in detail in this report under the appropriate heading of each.

REGULATION OF DANCE HALLS.

An ordinance for the regulation of dance halls in the city of Manila was drafted in this office and approved by the Secretary of the Interior and passed by the Municipal Board. The law becomes effective July 1, 1913, and has for its object the prevention and suppression of dangerous communicable diseases. It is a well-known fact that dance halls are an important factor in the spread of the above-mentioned class of diseases, which, when once contracted, frequently entail upon the sufferer long periods of illness and inability to earn a livelihood. Thus they may become a burden upon their relatives and sometimes upon the community which must care for them and they often transmit disease to innocent victims. The examination provided for at stated intervals serves to eliminate those capable of transmitting disease in a public place and is one more safeguard thrown around the public.

[ORDINANCE NO. 189.]

AN ORDINANCE FOR THE REGULATION OF DANCE HALLS.

Whereas, in accordance with the provisions of Act Numbered Eleven hundred and fifty of the Philippine Commission, the Bureau of Health for the Philippine Islands has drafted and transmitted to the Municipal Board of the city of Manila, a proposed health ordinance, duly approved by the Secretary of the Interior, for the prevention and suppression of contagious, infectious, or communicable diseases; and

Whereas the Municipal Board of the city of Manila deems it advisable to enact, without change, the said health ordinance, as submitted by the

Bureau of Health and approved by the Secretary of the Interior: Now, therefore,

Be it ordained by the city of Manila, that:

SECTION 1. It shall be unlawful for any person to dance in any public dance hall in the city of Manila who has tuberculosis or any dangerous communicable disease.

SEC. 2. It shall be unlawful for any person of the female sex to dance in a public dance hall, whether for a fee or otherwise, without having a valid certificate from the Bureau of Health showing that such person is free from tuberculosis or other communicable disease.

SEC. 3. Such certificate of the Bureau of Health shall be issued from Station J, Intramuros, only after such examination as may be necessary to determine the state of health of the person examined, and shall be valid for thirty days only from the date of issue: *Provided, however,* That all examinations of females, required by this section, shall be made by a female physician.

SEC. 4. It shall be unlawful for the owner, proprietor, manager, or person in charge of any public dance hall to allow or permit any female to dance in such public dance hall without having a certificate as required in section two of this ordinance.

SEC. 5. Any person violating any of the provisions of this ordinance shall, upon conviction, be punished by a fine of not exceeding two hundred pesos or by imprisonment not exceeding six months, or by both such fine and imprisonment, in the discretion of the court.

SEC. 6. This ordinance shall take effect on July first, nineteen hundred and thirteen.

Enacted, April 14, 1913.

LANTERN EXHIBITIONS.

In order to disseminate useful information of a hygienic and sanitary nature among the masses, a large number of lantern slides have been prepared. A suitable text was written by a number of the more experienced medical officers of the Bureau, and when this had finally been put into practicable form it was translated into the different dialects and a medical officer was detailed to give illustrated lectures in Manila and in the provinces.

The lectures were popular from the start and many requests for them are being constantly received from different provinces.

A good moving picture was obtained of the Culion leper colony and the work which is being conducted there, and it is the intention to show this, especially in the districts from which many lepers have been taken, so that their relatives and friends may have an opportunity to see for themselves the conditions under which the lepers in isolation are kept.

On account of the absence of electric light outside of the city of Manila, and since there is practically no other satisfactory light to be had in the Philippines by which lantern demonstrations can be given, an apparatus was necessary which would generate its own electricity. The Director of Health spent much time while in the United States last year in attempting to find a machine which would meet Philippine requirements. In the meantime, under the direction of the Secretary of the Interior, the Bureau of Science assembled an apparatus which has proven fairly satisfactory in actual experience with which moving pictures and stereopticon views can be given. The apparatus weighs over a ton, which has in actual experience been a great drawback in transporting it about in the more remote provinces. At this writing an apparatus is being tested which weighs less than 300 pounds. It comprises a moving-picture machine, a stereopticon attachment, and a reflectoscope.

LEPERS FROM GUAM.

In accordance with an Act of Congress lepers from Guam, 18 in number, were transported to the Culion leper colony by the naval ship *Supply* and are now being maintained there. The cost of maintaining the lepers at Culion will be paid by the United States Navy Department, under the jurisdiction of which Guam falls.

MEETING OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

The third biennial meeting of the Far Eastern Association of Tropical Medicine will be held in Saigon during the latter part of November, 1913. The Government of the Philippine Islands will be represented by the following official delegates: Dr. E. L. Walker, acting chief, biological laboratory, Bureau of Science; Dr. S. C. Gurney, chief medical officer of the Constabulary; Dr. Salvador del Rosario; and Dr. Victor G. Heiser, of the Bureau of Health.

These meetings in the past have been instrumental in bringing about a closer understanding among the sanitary officials of the countries of the Far East and have resulted in more uniform quarantine measures which have been mutually beneficial and at the same time have made it possible to reduce delays and vexations to the commercial interests in connection with quarantine administration. Work in searching out the etiology of beriberi has been greatly stimulated by the results of the researches which were presented before previous meetings and has served to bring this matter to the attention of the public in a much more forcible manner than would otherwise have been the case.

SANITARY CONDITIONS IN ILOILO.

For many years the sanitary condition of the province, and particularly of the port, of Iloilo has been most unsatisfactory. Every effort at sanitary reform was met with an apathetic indifference which usually succeeded in blocking every step toward improvement. The coöperative support of the Government officials in different branches of the service, which is so essential for successful health work, was practically always lacking. Every effort to have a suitable sanitary code enacted into a municipal ordinance was defeated.

The outbreak of plague which occurred in Iloilo during July, 1912, gave an opportunity for starting many sanitary measures which would have been impossible under normal conditions. Through the efforts of the Assistant Director of Health, the municipal council was finally induced to pass a sanitary code. The coöperation of many officials was secured. Soon after the return of the Assistant Director to Manila, District Health Officer Cullen was placed in charge of Iloilo as district health officer, and he has been successful in unifying the many additional diverse interests and has brought about a number of commendable sanitary reforms. Lowlands are now being filled; much land has been drained; venereal disease, which has been so rampant, is being brought under treatment; the occupation of basements by the poor on lowlands is being gradually abolished; a better system of garbage collection has been inaugurated; the streets are more satisfactorily maintained; and many other improvements have been brought about. A great hindrance which makes it impossible to accomplish results more quickly is the lack of funds. At the present time it is even impossible to secure enough money to purchase oil with which to attack the mosquito nuisance.

THE MANILA MILK SUPPLY.

In spite of the constant efforts of the Bureau of Health, the quality of the fresh milk that is placed on the Manila market still leaves much to be desired. One of the reasons for this is that the cows from which a large portion of the milk is obtained are kept outside of the city limits, and are the property of persons who have, probably, only one cow and who have no fixed place of abode, for which reason it is impracticable to enforce regulations, as could be done in the United States. Much of the milk, also, comes from the caraballa, or water buffalo. The fats and some other important ingredients in this milk are often double that found in cow's milk. In order to imitate cow's milk, this is frequently diluted one-half or more with water. The proteids are then in disproportion, so rice flour is added. If the fats have then been too greatly reduced, coconut oil is sometimes added. The resulting mixture is a most insanitary substance. One specimen of milk examined contained 62,391,600 bacteria per cubic centimeter.

Fortunately the last Legislature made an appropriation to the Society for the Protection of Infants for the construction of a building for housing the milk-sterilizing outfit which was donated by Mr. Nathan Straus of New York, through the efforts of this Bureau, and as soon as this becomes available it is proposed to require that all milk in the city of Manila be sterilized before it is sold or offered for sale. When this is once brought about milk will at least be safe, and the opportunities which will be afforded for a better inspection will, no doubt, result in a much better quality of milk than is available at the present time.

PROVINCIAL INSPECTION.

In the past, owing to the great amount of work occasioned by acute outbreaks of cholera, smallpox, dysentery, and other diseases, it has not always been practicable to find the necessary time to make inspections of the work done by health officers in the provinces. During the past year, owing to the improved health conditions, this lack has in part been remedied. In order to facilitate the work, a blank form has been prepared upon which data can be readily recorded and at the same time will serve in making a comparison between the different provinces.

THE SOUTHERN ISLANDS HOSPITAL.

The last Legislature finally made an appropriation for opening the new Southern Islands Hospital, which had been standing vacant since its completion more than a year ago. No specific positions were created, but this difficulty was overcome by securing the joint approval of the Secretary of the Interior, the Auditor, and the Director of Civil Service to a list of employees that were thought necessary in order to operate it. The hospital was opened on April 1, and from the beginning has relieved much distress and suffering. Unfortunates who have been stone blind for years with cataract have been successfully operated upon and again possess satisfactory vision. Many operations have been performed which undoubtedly resulted in the saving of human life, because facilities such as are afforded at the Southern Islands Hospital were not available before its opening. Plans have been completed and money is now available for the construction of a dangerous communicable disease hospital, which will further relieve an urgent necessity which has existed in Cebu for many years. It may be of interest to note that one of the young Filipina women who was educated at the Philippine Training School for Nurses now serves in the capacity of chief operating-room nurse in this hospital and has rendered most excellent service in that position.

FREE OBSTETRICAL SERVICE IN MANILA.

During the year as properly trained Filipina nurses became available, it was deemed advisable to substitute them for the midwives who have heretofore been employed by the Bureau for the free obstetrical service. A few years ago the College of Medicine and Surgery of the University of the Philippines undertook to bear much of the expense in connection with the obstetrical service, but it has now grown to such large proportions that the officials of the college feel that there is no longer any necessity for their active intervention in order to secure material for clinical teaching; and accordingly all financial support has been withdrawn by the college with the exception of the services of the members of the obstetrical staff. The city of Manila has increased its appropriation to ₱7,000 to meet the expenses hereafter. The cases will be handled in the free beds of the Philippine General Hospital and a large part of this expense, as well as that of furnishing the nurses, will hereafter fall upon the Bureau of Health.

PROVINCIAL PRISONS.

There has been a constant improvement in the sanitary condition of the prisons throughout the provinces. Most of them have been inspected a number of times during the year by the Director of Health and, with few isolated exceptions, their condition will compare very favorably with those of other countries. Among other things, systematic exercise was recommended and is now being enforced by the Director of Prisons in all provincial jails as well as in Bilibid. Active steps have also been taken to free the prisons of vermin, but where the insanitary bamboo bunks still remain this has been a most difficult problem. For eradicating bedbugs from woodwork and textiles a 5 per cent solution of formalin has proven fairly satisfactory.

FOOD AND DRUGS INSPECTION.

The board of food and drug inspection has been actively engaged during the past year, meeting regularly twice a month. Protests have been heard relative to the action taken against articles imported into the Islands. Many of these protests concerned the labeling of foodstuffs. On December 1, 1912, the practice of relabeling misbranded articles offered for import at the customhouse was discontinued, except in the case of articles of food or drugs offered for importation for the first time. The Food and Drugs Act has now been in force for six years and the board believes that ample time has now been afforded importers to have their goods meet the requirements of the law and that the courtesy extended to relabel any but first importations should be discontinued. During the year the subject of ice cream was given much thought. Many hearings were held for manufacturers and objections were definitely settled by experiments conducted at the Bureau of Science, at which it was conclusively shown that good ice cream could be made with either canned or fresh cream and sugar and without the introduction of extraneous substances. After this a standard for ice cream was fixed, and the following circular issued:

BOARD OF FOOD AND DRUG INSPECTION.

MANILA, *April 1, 1913.*

CIRCULAR }
L—18. }

To makers of and dealers in ice cream:

You are hereby informed that on and after July 1, 1913, all persons manufacturing, selling, or offering for sale ice cream which is not up to the standard fixed under the Food and Drugs Act will be prosecuted.

The definition of ice cream under this Act is as follows:

"1. *Ice cream* is a frozen product made from cream and sugar, with or without a natural flavoring, and contains not less than fourteen (14) per cent of milk fat.

"2. *Fruit ice cream* is a frozen product made from cream, sugar, and sound, clean, mature fruits, and contains not less than twelve (12) per cent of milk fat.

"3. *Nut ice cream* is a frozen product made from cream, sugar, and sound, nonrancid nuts, and contains not less than twelve (12) per cent of milk fat."

To call a product "ice cream" or "mantecado" it must come up to this standard. Any other frozen products of this nature below this standard must be called by another name. Such names as "frozen sweet," "water ice," "sherbet," "sorbete," and "helado" are suggested.

Any frozen products containing added starch, gelatine, or eggs cannot be sold as ice cream.

Any coloring matter used must be in the list of certified colors under the Food and Drugs Act.

The board of food and drug inspection, after experimentation and consultation with certain of the ice-cream manufacturers, has come to the conclusion that an excellent standard ice cream may be made in the Philippine Islands at reasonable cost. These investigations have evolved a formula for making this product, which, if desired, may be had upon application to the Director of Health.

G. H. TILBURY,
Secretary, Board of Food and Drug Inspection.

Approved:
VICTOR G. HEISER,
Director of Health.

Approved:
DEAN C. WORCESTER,
Secretary of the Interior.

An investigation of the coffee sold in the Philippine Islands resulted in establishing the fact that some of the articles sold as coffee contained adulterants such as chicory, cereals, beans, peanuts, etc. Some of these products would have the word "imitation" printed on the English label, but nothing to indicate the fact in the Spanish or other label. To correct this a circular was issued:

BOARD OF FOOD AND DRUG INSPECTION.

MANILA, *March 31, 1913.*

CIRCULAR }
L—17. }

To all importers, wholesale and retail dealers, and manufacturers of coffee.

THE LABELING OF COFFEE.

Coffee is the seed of *Coffea arabica* L. or *Coffea liberica Bull.*, freed from all but a small portion of its spermoderm, and conforms in variety and place of production to the name it bears.

Roasted coffee is coffee which by the action of heat has become brown and developed its characteristic aroma, and contains not less than ten (10) per cent of fat and not less than three (3) per cent of ash.

Your attention is called to the fact that any product which is not coffee cannot properly be called by that name, nor can any product which contains other substances in addition to coffee be called by that name.

When products consist of coffee and other substances, such as chicory, cereals, beans, peanuts, etc., they must be labeled either "imitation coffee" or the term "coffee" must not be used at all. The label may read "Ground mixture consisting of coffee, chicory, and cereals," etc.

It is pointed out that because a product contains some coffee the word "coffee" on the label cannot be used under the law except as above.

The word "imitation" or the words "consisting of," including the substances used as adulterants, etc., shall be in as large a type as the rest of the label.

No coating of any kind shall be applied to coffee, "if the product be mixed, colored, powdered, coated, or stained in any manner whereby damage or inferiority is concealed." All coffee treated in this manner must contain a statement on the label that it is so treated, with the name of the substance or substances used as the coating; also the presence of any artificial coloring matter should be declared on the label.

Attention is also called to the fact that when coffee is stated on the label to be Java coffee it must come from the island of Java or it is misbranded; coffee labeled "Philippine coffee" must come from the Philippine Islands or it is misbranded; the same statements apply to coffee from all other parts of the world.

The principal label shall be printed in English, with or without the foreign label in the language of the country where the product is produced or manufactured. The size of type shall not be smaller than eight point (brevier) capitals.

The provisions of the preceding paragraphs, except the last, apply to foreign labels as well as to the English label.

G. H. TILBURY,
Secretary, Board of Food and Drug Inspection.

Approved:
VICTOR G. HEISER,
Director of Health.

Approved:
DEAN C. WORCESTER,
Secretary of the Interior.

By the enforcement of the foregoing the purchaser is assured that when he is paying for coffee he will receive coffee and not an imitation or a mixture which may contain no coffee.

Constant vigilance is required in the enforcement of the Pure Food and Drugs Act. Several years ago the practice of incorporating gypsum in toqua cakes was general. A number of manufacturers were cautioned, and signed a written agreement that gypsum would not be used. For a time the agreement was observed, but gradually gypsum again appeared in the toqua cakes, and its use became so general that at a recent hearing before the board these manufacturers were recommended for prosecution.

Examination of drugs from pharmacies, put up in tablets and capsules, showed upon analysis that the tablets and capsules frequently contained less of the drug than stated on the label.

Accordingly the matter was placed in the hands of the Attorney-General for prosecution and several convictions were obtained. The judgments imposed a fine upon the guilty parties.

At the present time several cases are still pending.

Practices of this kind are reprehensible and the defense made that it was not done for gain does not excuse the offense, because the life of a patient may depend upon the exact dose prescribed by the physician being administered.

On April 25, 1913, a special hearing was given to distillers of domestic fermented liquors in the matter of the discontinuance of the use of labels not in conformity with the provisions of Act 1655, and it was recommended that the distillers submit to the board for judgment labels covering so-called fermented liquors manufactured by them before the same are used on containers of these liquors.

That the efforts of the board to insure pure food products as well as the correct labeling of containers are appreciated by the importers is evidenced by the numerous inquiries received from them requesting information and instructions relative to the importation of food products.

The following table is a summary of food and drug inspections made during the year:

Articles.	Total.	Adulterations and misbrandings.	Rejections.
Butter	10		1
Cheese	21		2
Coffee	4	8	1
Coloring matter	1	1	1
Fish, canned	10	2	4
Essence and extract	14	3	3
Fruits, preserved	1		
Ginger ale	1	2	2
Ham and bacon	17		
Ice cream	3	3	
Fruit juice, jelly, and jam	20		6
Lard	2		
Meats, canned	1		
Medicines and drugs	15		7
Milk, canned	12		4
Mineral waters	2		1
Olive oil	7	1	
Sauces	11		7
Sausages	6		
Sardines	26		1
Sirup and molasses	1		1
Tea	33	12	14
Vegetables, canned	2		1
Wines	7		
Miscellaneous	142		24
Total	369	32	80

The above only includes imports collected at the customhouse; in addition there were many examinations of food and drugs obtained in the local market.

RICE POLISHINGS OR TIQUI-TIQUI (DARAC).

With a view of determining whether tiqui-tiqui as it is discarded by the rice mills could be utilized as a porridge, a sample of this product was taken from the rice mill near the Tondo railroad station and forwarded to the Bureau of Science with the request that it be submitted to a thorough test for impurities in order to ascertain whether it could be safely used as food without having to undergo a purifying process. The following report was rendered by the chemist:

> A few human hairs, a score or so of beetles (*Tribolium ferrugineum*) in various stages of development, and small quantities of grit and hulls were found in the sample. Nevertheless, it is probably as clean as any commercial sample obtainable and much better than most.
>
> The only process practicable for cleaning tiqui-tiqui is by sieving through a sieve of about 30 to 40 meshes to the inch. About four-fifths of the sample passes through such a sieve and is then practically free from the foreign substances mentioned. In this condition the product could no doubt be eaten without actual damage, though the possible presence of insect remains is revolting.
>
> If clean, tiqui-tiqui could doubtless be prepared in the same manner as corn meal and other nonglutenous farinaceous products.

In view of the difficulties that would be encountered in making tiqui-tiqui a palatable food, it is believed to be better to make a trial of yeast, which recent laboratory work seems to show possesses the same properties as tiqui-tiqui as a cure or preventative for beriberi, and as yeast could be more easily administered, trials with the latter are soon to be made.

THE SCHOOL LUNCH SYSTEM.

Outside of school circles very little is known of what is being done by the public school system in the way of school hygiene. It would be impracticable in a report like this to give more than the briefest outline of the scope of the work, and as the physical training and general hygienic instruction is better known than the school lunch system, the following extract from an article in the Teachers' Assembly Herald is published as showing the value of an auxiliary sanitary effort that has the sympathy and coöperation of this Bureau.

The lunches are sold for a nominal price as the purpose is hygienic and educational rather than to make money.

The preparation of the school lunch is a part of the domestic science training.

THE SCHOOL LUNCH SYSTEM IN THE MANILA SCHOOLS.

The present comprehensive lunch system in the city schools had its weak beginnings in the year 1905 in the Sampaloc Primary School.

The supervising teachers had realized for a long time the necessity of putting the industrial work in the schools on a firm basis, but had been prevented from doing so by a lack of funds wherewith to carry on their work. About this time attention was attracted to the people who sold food to the school children at recess. It was noted that they were dirty, that their wares were not clean and were of a poor quality, and that they took no precautions to protect what they sold from flies or other insects. Realizing that this state of affairs demanded betterment, it was determined to begin a lunch service in the schools which might furnish the children with a good, substantial lunch at the same prices that they paid the outside vendors; and then, if there were any profit from the operation of the lunch counter, it could be used in the purchase of materials for industrial work.

The scheme worked well and was successful from the start. Gradually, the lunch system was extended to all the other city schools, where it likewise proved a successful venture, both financially and otherwise.

At the present time the primary and intermediate schools of the city serve lunch daily to about 12,000 children of all ages, classes, and conditions. The Meisic Primary School, which has the largest enrollment of any of the city schools, prepares lunch every day for about 2,200 pupils. This school takes in every month an average of about ₱360 from its lunch counter, most of which is, of course, immediately expended for supplies for lunch on succeeding days. In this school, as in the other city schools, what little profit accrues from the lunch sales is put into the Postal Savings Bank "school fund," and is used solely for the benefit of the pupils themselves.

In the three intermediate schools in Manila in which lunch is served—

Paco, Sampaloc, and Tondo—provision is made daily for serving more than 1,200 children. A description of the lunch system in the Tondo Intermediate School may be taken as typical of the system as carried on in the other intermediate schools of the city. Tondo is selected because it is the largest of the intermediate schools, and also because the writer is better acquainted with the workings of the system in Tondo than in the other city schools. It must be understood here that the preparation and serving of lunch is done in connection with the girls' regular work in domestic science or in the special course in housekeeping and household arts.

In the Tondo School two rooms are used for the preparation and serving of lunch. These rooms are equipped with several capacious cupboards, long tables, and ice chest, sinks with running water, oil stoves, and a complete assortment of dishes and kitchen utensils. In one room there is a big American range with eight holes and two large ovens. At present all the cooking is done on this American stove, and from 7.30 a. m. to 12.30 p. m. every inch of space inside and outside of this stove is in constant use.

The scene presented during the preparation of the lunch is an animated one. At a long table in the center of one of the rooms stand a half dozen young cooks, each one busy with her assigned task. One mixes the dough, another rolls it, while another one cuts out the biscuits or the pie crust. A fourth girl takes the biscuits to the oven, where another one supervises the baking. Some of the girls prepare the soup or the stew, others make the sandwiches or freeze the ice cream. Others are assigned to attend to the cooking. The girls rotate in the performance of these various duties, as well as in the cleaning up which follows the serving of the lunch. So each pupil becomes acquainted with all the different processes involved in the preparation of the lunch and each one knows what she is to do and is held responsible for doing it.

As the time for recess approaches, the stir and bustle increases. Two long tables, one in the domestic-science room for the girls' lunch and one outside on the porch for the boys, are piled with cups, saucers, and glasses, with steaming pots of soup or stew, with heaping plates of biscuits, sandwiches, cakes, pies, boiled bananas. Each girl serving the lunch is responsible for a certain number of cakes, biscuits, bowls of soup, cups of ice cream, or whatever else she may be serving, and must turn in the proper amount of money for each article sold. Here are two sample menus of dishes served every day in the Tondo School.

Menu No. 1.

4 gallons beef stew with potatoes, onions, and rice.
100 ears of boiled corn.
150 bread and butter sandwiches.
72 little one-egg cakes.
60 banana fritters.
50 squash muffins.
5 gallons coconut ice.

Menu No. 2.

4 gallons Filipino stew containing gabi, ubi, banana, coconut milk, native sugar, and sago.
150 boiled bananas.
150 biscuits with cheese.
72 coconut-custard tarts.
50 corn-meal muffins.
5 gallons lemon ice.

The most popular dishes are Filipino stew, fried salmon breads, biscuits, cakes, and ices. They are also the most profitable. For the benefit of those who are curious as to the nature of "fried-salmon breads," it may be explained that they are made by chopping up together canned salmon, onions, and boiled potatoes. This mixture is spread between slices of bread and the whole is cooked in hot fat.

During the eight months ending January 31, 1913, the Tondo Intermediate School received from the sale of lunches the sum of ₱1,665.21, an average of more than ₱10.50 a day. The expenses during this time amounted to ₱1,578.65, leaving a profit of ₱86.56, or an average daily profit of about 55 centavos. An examination of the following list of articles prepared for the lunch, and of the prices at which they are sold, will show that it is not our object to make a profit from our lunch sales. We are satisfied if we make expenses. As a matter of fact, we try to make no profit, except what is unavoidable. For example, if we should buy 100 buns at a wholesale rate of 90 centavos a hundred, the lowest rate at which we could possibly retail them and come out even would be 1 centavo each, an unavoidable profit of 10 centavos thus accruing. The time spent by teachers and pupils preparing and serving the lunch is not reckoned in fixing the selling price. Our purpose is to furnish to each pupil a wholesome, sanitary lunch at a price within reach of his purse, and practically at the cost of the materials. For 4 centavos a pupil may obtain a bowl of hot, nourishing soup or stew, a buttered sandwich, a piece of cake, and a glass of ice cream or ice. We offer a wide variety so that the purses and tastes of everyone may be suited.

ARTICLES SOLD AT THE TONDO INTERMEDIATE SCHOOL LUNCH COUNTER.

Fritters.—Coconut, banana, rice, and crumb, 1 and 2 centavos each.

Ices.—Lemon and orange, 1 and 2 centavos a glass; coconut and ubi, 1 and 2 centavos a glass; mongo con hielo, 3 and 5 centavos a glass.

Tarts.—Chocolate, coconut, and jelly, 2 centavos each.

Cookies.—Spice and ginger, two cookies for 3 centavos; sugar cookies, 2 centavos each; molasses cookies, 1 centavo each.

Pies.—Banana, 3 and 4 centavos a cut; squash or coconut, 3 centavos a cut; dried apple, 2, 3, and 4 centavos a cut.

Hot biscuits.—With butter, cheese, jelly, or coconut, 2 centavos each; with minced ham, 3 centavos each.

Soups and stews.—Beef stew and tomato soup, 1 and 2 centavos a bowl; Filipino stew, 1 and 2 centavos a bowl; Filipino stew (mongo), 1 and 2 centavos.

Sandwiches.—Coconut, 2 centavos each; meat, 3 centavos each; cheese, 2 centavos each; butter, 1 centavo each; chili sauce and egg sauce, 2 centavos each.

Cakes.—Spice cake, chocolate cake, plain white cake, 2 centavos each; tea cakes, 1 centavo each; jelly roll, sponge cake, and marble cake, 2 centavos each.

Muffins.—Squash, plain, coconut, cheese, and corn meal, 2 centavos each.

Miscellaneous.—Doughnuts, 2 centavos each; chicken pie, 5 centavos a cut; deviled crabs, 3 centavos each; tortas, 1 centavo each; cheese straws, 1 centavo each; fried salmon and bread, baked potato and salmon, johnny cake, 2 centavos each; Washington pie, 5 centavos a cut; macaroni and cheese, 2 and 3 centavos a dish.

To one who has worked any time in the city schools there is no doubt as to the utility and benefit of the lunch system. For many of the pupils it is the only breakfast that they get, while generally it is also the most wholesome meal of the day. A medical inspector who was formerly detailed in the city schools stated that a medical examination of the pupils made about a year after the lunch system was established showed an improvement of 90 per cent in their health.

NOTE.—In connection with the above article it should be noted that many of the American dishes such as tarts, cookies, pies, and ices are served because the pupils demand them, and that they do not form a prominent part in the domestic-science work. It should be noted also that this lunch system is conducted in Manila where many of the Filipino families are accustomed to food such as is not common in the provinces and therefore does not hold a place in provincial and municipal school lunch systems.—[ED.]

MARITIME QUARANTINE.

The work of the Bureau of Health was greatly assisted during the year by the quarantine inspection made by the United States Public Health Service of all vessels from foreign ports that enter the Philippine Islands. It has now become the routine practice to examine all steerage passengers who come directly from districts infected with cholera by making a laboratory stool examination for cholera vibrios. In making these routine examinations many persons afflicted with hookworm and other intestinal parasites, amœbic dysentery, and even balentidic dysentery were discovered. All such persons are treated before being released, which prevents much infection from entering the Philippines.

During the epidemic of cholera which prevailed last summer in China and Japan no quarantine detention was imposed upon arrivals from those countries, reliance being placed entirely upon the condition of the patient upon arrival and the result of the stool examination.

In addition to the cholera vibrio carrier who was discovered on June 30, 1912, a number of other cases were discovered from time to time that harbored vibrios; but after extensive laboratory investigation they were reported as not being true cholera vibrios.

SCHOOL OF INSTRUCTION FOR SANITARY INSPECTORS AMONG THE WILD TRIBES.

During the closing weeks of the present fiscal year arrangements were made for starting a small class at the Bontoc Hospital, composed of Ifugaos, Bontocs, and Kalingas, who are to undergo a short apprenticeship as hospital helpers and in addition receive instruction in elementary sanitation. It is hoped that a sufficiently large number will complete this course so that future vacancies in the position of sanitary inspectors can be filled therefrom. Even though many of them should not be employed in the future as sanitary inspectors, it will be of the greatest value to have these men return to their native towns with a knowledge of the rudiments of sanitation and be able to assist their townspeople with first aid and the administration of simple remedies.

FURTHER EXPERIMENTS IN THE STERILIZATION OF WATER BY THE ULTRA VIOLET RAYS.

In the last annual report it was stated that the amount of ₱4,500 had been appropriated from the sewer and waterworks bond issue for the purpose of purchasing a larger experimental sterilizing plant to determine the value of the ultra violet ray in rendering water free from bacteria, amœbæ, and other germs. Owing to the great distance of Manila from manufacturing centers, and to many vexatious delays, the entire plant had not arrived at the close of the fiscal year, so that it was not possible to do any work beyond that reported in previous annual reports.

CEMETERIES IN MANILA.

The order for the closure of all cemeteries in Manila with the exception of the Del Norte Cemetery went into effect on July 1, 1913. The establishment of the large Lolomboy Cemetery by the Archbishop of Manila has made considerable progress and is practically ready for the interment of bodies. This cemetery is adjacent to the Del Norte Cemetery and well located. So far no satisfactory progress has been made in the establishment of a cemetery to meet the needs of the city south of the Pasig River.

AMBULANCE SERVICE.

The ambulance service of the Bureau of Health has now been completely motorized, the use of horse-drawn ambulances having been discontinued during the year. The equipment now consists of four electric ambulances and one high-power gasoline ambulance. The electric ambulances continue to give excellent satisfaction, especially on account of their noiselessness in operation, the power transmission being by worm gear instead of the ordinary chain. In view of the fact, however, that their radius of activity without recharging is rather limited and that the Bureau frequently has calls for ambulance service to near-by provinces, it was deemed advisable to secure a gasoline-driven motor. The manufacturers of the De Dion motor cars secured the contract and have furnished an ambulance which is capable of making a speed of at least 60 miles an hour and of climbing any grade passable for vehicles. It is of modern French construction, and not only serves the purpose of an ambulance but of a small hospital on wheels as well. A lavatory, water sterilizing apparatus, formaldehyde disinfector, surgical instruments, upper and lower berths, table, etc., are included in its equipment. The improved service in connection with transferring dangerous communicable diseases to the San Lazaro Hospital has been of great advantage in conducting this branch of the work. All ambulances are maintained at a central station located at the Philippine General Hospital and convenient to the machine and electrical departments of the Bureau of Science so that the charging and repairs can be readily attended to.

INJUNCTION AGAINST THE DIRECTOR OF HEALTH RESTRAINING HIM FROM COMPELLING SEWER CONNECTIONS DISSOLVED.

The injunction against the Director of Health which restrained him from ordering the connection of premises with the new sanitary sewer system of the city of Manila, which has been pending since January 25, 1910, was finally dissolved by the Supreme Court of the Philippine Islands during September, 1912. The validity of the ordinance which gives the Director of Health the right to order sewer connections was sustained. The decision is of the greatest importance to the sanitary advancement of Manila, because the work of bringing the new sewer system into general use was seriously hampered. The fundamental point at issue was whether the city of Manila through the Director of Health could compel the use of a modern sewer system in which the taxpayers had invested over ₱4,000,000 for the express purpose of improving the public health.

MILK IMPORTATIONS.

During the year some progress has been made toward starting modern sanitary dairies for the purpose of supplying fresh milk to the city of Manila; but in spite of this increased activity, the importations of natural milk still continue to show a steady increase as indicated by the following table furnished by the Insular Collector of Customs:

Importations of milk.

Year.	Condensed.		Fresh.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Gallons.*	
1903	3,070,028	$247,366	----------	----------
1904	3,233,052	251,261	8,804	$2,494
1905	3,018,376	233,667	8,537	3,778
1906	3,776,761	284,495	34,879	11,428
1907	3,646,264	289,789	69,030	27,435
1908	4,147,413	349,307	81,669	36,627
1909	4,752,733	406,607	113,397	47,233
1910	6,371,129	475,882	149,656	49,314
1911	9,507,983	623,541	145,922	66,831
1912	11,411,590	765,548	267,962	110,014
1913	9,927,069	721,601	271,765	111,287

HEALTH EXHIBIT AND EMERGENCY STATION AT THE CARNIVAL.

At the last carnival held in Manila during February, 1913, the Bureau of Health established an emergency station and included therewith a small exhibit illustrating various phases of health work. Among other things, daily demonstrations were given by Filipina nurses of the correct manner in which to prepare milk for infant feeding.

RESULTS OF ANTIMOSQUITO WORK IN MANILA.

During the opening months of the present fiscal year the measures which had apparently been effective in keeping Manila reasonably free from mosquitoes suddenly seemed to fail in the city, especially the sections which were inundated by the high tides and the sections directly to the leeward of such areas, suffered most severely. Ordinarily the only mosquitoes that annoy man to any great extent in Manila are the *Culex fatigans* and the *Stegomyia persistans*, the former breeding in drain pipes, septic tanks, cesspools, etc., and the latter in collections of clean fresh water contained in rain barrels, house gutters, cans, bottles, etc. The *Culex ludlowii*, which breads abundantly in the swampy areas, ordinarily does not trouble man in Manila; but this year they bred in such enormous numbers that, owing to the fact, perhaps, that their normal food supply was insufficient, they attacked man in order to obtain nourishment. The breeding of these myriads of *Culex ludlowii* was attributed to the very low stage of the Pasig River resulting from the unusual dry season. This permitted the high water caused by the June tides to inundate sections of the city with sea water that ordinarily remained free from it. Whether this hypothesis is right or wrong, it may be stated that within six weeks after the heavy rains began the *Culex ludlowii* began to disappear from the houses, and since then Manila has probably been more free from mosquitoes than at any time since the antimosquito campaign was begun. In many sections of the city it is a most rare occurrence to encounter a mosquito during either the night or day. The ordinance making it the duty of the owner or occupant of a premises to keep the same in a mosquito-proof condition is being more and more rigidly enforced.

STERILIZED WATER FOR RESTAURANTS, TIENDAS (STORES), SOFT-DRINK ESTABLISHMENTS, AND OTHER PUBLIC PLACES.

In the routine work of collecting samples of water used for drinking purposes in tiendas (stores), restaurants, etc., for analysis, the presence of bacilli of the colon type, showing contamination of the water, was found to be very common.

Prosecutions and convictions did not remedy the condition. Experiments indicated that the simplest way to serve sterile water was to have a sterilizing apparatus in each tienda. The simplest form was a teakettle placed over an oil burner. Accordingly, the following instructions are being printed in Spanish, Tagalog, and Chinese and will be distributed to the tiendas of the city:

STERILIZATION OF WATER FOR RESTAURANTS AND OTHER PUBLIC PLACES BY BOILING.

In view of the provisions of paragraphs 347, 348, and 952, Manual of the Bureau of Health, concerning the use of sterilized water in public houses and the decision of the Director of Health that "in order to have a license approved, water must either be obtained from the Insular ice plant or a teakettle must be provided for rendering water sterile," the following instructions are prepared for restaurant keepers, tienda keepers, and others who are liable to prosecution for violations of the ordinances mentioned above:

A teakettle is the simplest and safest apparatus for the domestic sterilization of water.

If the kettle be filled with water from the city pipes, sterilized water may be had after fifteen minutes steady boiling. During this time the water must boil violently and steam must issue from the teakettle spout for at least fifteen minutes.

After boiling, the water should remain in the teakettle undisturbed and unopened until cool and should then be dispensed by pouring directly from the kettle without opening it. No ice should ever be introduced into the kettle, nor should the lid ever be removed except when the kettle is refilled for sterilization or when the inside of the kettle is being scrubbed.

If boiled in the evening the water will be sufficiently cool for drinking in the morning.

At least two kettles should be provided in order that a reserve supply of sterile water may be always at hand. The size of the kettle and the number of kettles employed will be determined by the amount of water dispensed daily. No kettle of less capacity than a gallon of water should be used. The approved materials are enameled ware and galvanized iron.

Health-station employees will demonstrate the method of sterilizing water by boiling to all applicants at any time and therefore ignorance cannot be accepted as an excuse for failure to provide boiled water.

An oil burner will be found to be the easiest way and probably the cheapest method of applying heat for boiling water. If a "Primus" or similar burner be used, the value of the oil consumed in boiling a gallon of water will hardly exceed 2 centavos. The time required will be about half an hour—fifteen minutes for bringing the water up to the boiling point and fifteen minutes for actual boiling. Other sources of heat may be used, but in any case the period of actual violent boiling of the water must not be less than fifteen minutes.

Boiled water must be used within twenty-four hours of the time it is prepared and the teakettle must be cleaned by a thorough scrubbing and rinsing of the interior at least twice a week.

PUBLIC MARKETS IN MANILA.

The provision contained in the Manila ordinances which only permits the sale of fresh meat, fish, poultry, and green stuffs in a public market is probably one of the most advanced pieces of legislation to be found anywhere and probably has been more effectual in providing the consumer with a fresh product than any one thing that has been done in Manila. By this method one sanitary inspector can supervise the sale of an enormous quantity of foodstuffs and all dealers are assured of having a uniform inspection.

In Manila there were two new modern markets opened for use during the year, both constructed of reinforced concrete—one in Paco and one on the Tondo beach. The market tables are concrete, and the buildings are supplied with ample water facilities, enabling them to be kept scrupulously clean. The erection of the latter market will correct to a great extent the insanitary conditions which have heretofore existed on Tondo beach due to the traffic in fish.

In the meat stalls, to prevent the handling of meat by purchasers, forks are provided; but much education and patience will be necessary before the old custom of handling one piece of meat after another with the fingers will stop. To reduce the practice as much as possible, substantial screen cages made of copper wire with sliding doors, large enough to cover two stalls, have been built, in which the meat is placed. The only one having access to the cage is the seller, and thus not only is the meat protected from promiscuous handling but also from contamination by flies.

The matter of providing cuspidors for the public markets has been taken up with the department of sanitation and transportation and they are now being installed.

This will serve as an educational feature in the prevention of the common habit of expectorating anywhere and everywhere and will be one more small effort in the campaign against the spread of pulmonary tuberculosis.

MARKETS IN THE PROVINCES.

Since the Executive Bureau has adopted the policy of financing the construction of modern sanitary markets by authorizing loans from the gold standard fund, most satisfactory progress has been made in practically all of the provinces of the Philippines in the erection of modern reinforced concrete buildings. The public market in a village is an institution the importance of which as a factor in the daily life of the people can scarcely be understood without a personal acquaintance with the matter on the spot; so that the construction of a modern building, and more particularly its maintenance in a cleanly manner, has not only been of the greatest importance in permitting proper inspection, but the market itself and the manner in which it has been kept has been an educational feature which has been doing much to spread the doctrine of cleanliness throughout the Islands. In the past the greater number of markets were built of bamboo or wood and thatched construction without floors and generally maintained in a most unsatisfactory condition, the very construction favoring the harboring of insects and vermin. The markets now constructed are of reinforced concrete throughout, with concrete floors, the building constructed in an open manner, and in a great majority the roofs are made of tile; so that the whole presents a neat appearance, which has done much to promote civic pride among the inhabitants.

Before making a loan the Executive Bureau requires that certain conditions be fulfilled. Among other requirements, the market site must contain at least 1 hectare (2.471 acres) of land and have certain distinct boundaries and good drainage and be so situated as to be convenient for both buyers and sellers. The general plan followed for a building provides for one or more central buildings of from 12 to 30 meters in width, the length proportional to the size, the main building being in the center and the small stalls and stores facing the central building. All stalls and stores are so arranged that they may be closed securely and locked. The tables from which foodstuffs are sold are now usually made of concrete and the construction must be open so that during the visits of the inspector spoiled vegetables, meat, etc., cannot be readily kept from his view. The practice which prevailed so extensively of permitting persons to live in the markets has also been discontinued. The only person allowed to remain in the inclosure during the night is the caretaker. A feature that has greatly aided in the market construction is the fact that they have proven an excellent financial investment to the municipalities. They have yielded good returns and in many instances the revenues have increased 400 per cent, not because the space was rented at a higher rate, but because more actual business was done.

CONDITIONS IN BUTUAN AND BUKIDNON.

During the past year much substantial progress has been made in extending sanitary and medical work among the residents of these two provinces. Considerable additional equipment has been installed at the new temporary hospital at Butuan. The personnel has also been increased by Dr. S. F. Garcia, Mr. Manuel Paras, a graduate of the Philippine Training School for Nurses, and other personnel. Doctor Garcia now looks after the hospital, which permits Doctor Ampil to make more extensive journeys in his district and learn the sanitary needs of the people and to enforce the necessary measures. The vaccination of practically all the residents of these two provinces has now been completed, and smallpox, for the first time in many years, has completely disappeared. Plans have practically been completed for the construction of a modern reinforced concrete hospital building at Butuan.

MEDICINAL WATERS OF THE PHILIPPINES.

The last Legislature, by Act No. 2264, made available the sum of ₱15,000 for the purpose of studying the mineral waters of the Philippine Islands, and at this writing the work is under way. Samples of water have already been secured and analyzed from all springs known to the Bureau, and records and descriptions, real or alleged, of the properties of the waters are now being collected. It is hoped that when the next annual report is due a complete description with analyses can be given of each mineral spring in the Islands.

SIBUL SPRINGS.

The Bureau has been in receipt of many complaints against the insanitary conditions and the undesirable features which prevail at the Sibul baths. The public evidently has gained the impression that the management and control of the Sibul Springs is vested in the Bureau of Health, probably from the fact that, because there was no other convenient agency, the sale of bath tickets at Sibul was placed under its control. The management of the Sibul Springs is under the Sibul Springs Improvement Committee, and frequent representations have been made with regard to the unsatisfactory condition in which the springs are maintained. The committee has reported that it is unable to remedy the conditions owing to lack of funds.

At the last Legislature, in Act No. 2264, the sum of ₱20,000 was appropriated to the Bureau of Health for the improvement of Sibul Springs and for the construction and repair of streets, squares, and bridges in the población.

Plans have been made for improving the condition of the baths by providing proper drainage so that the pools can be emptied and thoroughly cleansed. The plans also provide for lining the baths with tile, the installation of proper dressing rooms, handrails to guard against the danger of slipping, and generally to improve the baths.

Sibul still continues to be very popular with the public. There is ample evidence that the drinking of the water and taking the baths produce most beneficial effects in many gastro-intestinal disorders, especially chronic gastritis of a catarrhal nature. In order to ascertain whether the water has laxative or constipating properties a record was kept of a large series of cases for the effect which the water had upon persons who visited there, with the result that diarrhœa was produced in approximately one-third of the people, constipation in another third, and the remaining third was apparently unaffected in so far as action of the bowels was concerned.

SIMPLE REMEDIES PACKAGES.

The simple remedies packages prepared by the Bureau in different sizes and named according to the size, the largest being known as No. 1 and the smallest as No. 3, have continued to be very popular with the public. The work of collecting and destroying the stocks of dangerous drugs which were formerly kept by municipalities and others in remote sections where there was not even a doctor to prescribe them has been steadily continued. By a special arrangement with the Executive Secretary and the Purchasing Agent, municipalities and inexperienced persons are now prevented from purchasing poisonous drugs, their place being taken by simple remedies packages. This no doubt has resulted in greatly reducing the danger from poisonous drugs being used by the inexperienced.

USE OF DISTILLED WATER IN MANILA DISCONTINUED.

The analysis of the water from the artesian well which was bored at the Philippine General Hospital was so satisfactory in every respect that it was deemed advisable to ascertain whether water of this kind could not be made generally available to the public. In the past it has been customary for the cold storage plant of the Government to furnish the public with distilled water for drinking purposes at 1 centavo per liter. In the opinion of many tropical residents and also of some physicians the constant use of distilled water is deleterious to health, it being argued that because distilled water does not contain any of the salts ordinarily found in water, the system is deprived of certain essential principles. The question of the use of a natural water was accordingly taken up with the Insular Purchasing Agent, who is in charge of the cold storage plant, and he arranged for the installation of an artesian well. The well has proved successful and the analysis of the water is satisfactory, so that in the future instead of supplying distilled water the Government will sell artesian water, which will be known as certified water. The use of distilled water among white persons and the better class of Filipinos has become very general and it is believed to be intimately associated with the small amount of amœbic dysentery that is found among these classes, so that any change in the water supply is a matter of the greatest importance.

THE ANTIPOLO PILGRIMAGE.

The insanitary conditions caused by the large number of persons who daily visit Antipolo for the purpose of worshiping at the shrine of "Nuestra Señora de la Paz y Buen Viaje" still continues to be a great sanitary menace. Frequently 10,000 or more persons per day go to Antipolo; as the town is not provided with adequate sanitary facilities for meeting the needs of so large a number of persons, most shocking conditions ensue. At times when cholera or bacillary dysentery or other dangerous communicable disease is present it will be readily apparent that the opportunity for spread of diseases of this kind is practically unlimited, and that these considerations are not only theoretical has been amply demonstrated by sad experiences in the past. Recommendations have been constantly made with a view to minimizing this danger, but so far they have largely gone unheeded.

THE NEW DEPARTURE IN THE COLLECTION OF GARBAGE, REFUSE, AND STREET SWEEPINGS IN MANILA.

A radical departure in the method of collecting and disposing of garbage, refuse, and street sweepings is to be made during the coming year. In the past it has been customary for the municipality to carry on this work. Several months ago the Municipal Board entered into a contract with a private firm to do this collecting by means of automobile trucks and to dispose of the materials for profit in a modern plant. It is proposed to do the collecting in a much less noisy manner than has heretofore been the case and in a lesser number of hours. If this hope is realized, the inconvenience which is now experienced at times by the public should be largely reduced.

Another important feature which is to be brought about is a change in the method of providing garbage receptacles. In the past ordinances have required that each householder should provide himself with a garbage can with a tight-fitting cover of such design and construction as was satisfactory to the Director of Health. In actual practice enforcement of the use of a good garbage receptacle among the masses has proven to be impracticable. For those who are able to purchase good galvanized-iron cans the loss was so great by theft that it was deemed unfair to compel a householder to keep on purchasing cans, the ownership of which could not be assured to him by the city police system. There was then another large class of householders who seemed to lack sufficient financial resources to purchase a suitable can. This resulted in boxes, cans, baskets, and other undesirable forms of receptacle being used, and the odors arising from them after they were placed in the streets after dark were frequently very nauseating. It has been proposed to remedy this condition by having the municipality furnish the garbage receptacle at a rental of ₱3 per year, which will include keeping the receptacle in good repair and replacing it if lost or stolen. There is every reason to hope that with the carrying out of this plan the collection of garbage in Manila will lose many of its undesirable features and that the city will take front rank with any city in the world in this regard. The faithful collection of garbage by the new method will of necessity have an important influence in assisting in the reduction of the number of rats, thereby greatly aiding the antiplague measures.

THE FILLING IN OF LOWLANDS BY STREET SWEEPINGS.

The plan of permitting the use of street sweepings in the filling in of lowlands still continues to receive much criticism from many quarters. The undesirability of using material of this kind is fully appreciated; but when the meager financial resources to fill in land are taken into consideration it has been deemed advisable to incur the risk of causing a temporary nuisance in order to gain a permanent improvement later on. That this plan has its justification is well shown by the many acres of most desirable well-drained land that have replaced the stagnant water pools of old.

It has been found, however, that in order to keep the breeding of flies down to the minimum, the covering of such filling material with 10 centimeters of clean earth or sand was not sufficient. A minimum of 20 centimeters of clean earth or sand is now required, and this has been followed by much better results than have been obtained heretofore.

FIELD COVERED BY THE BUREAU.

The many varied lines of activity which are either conducted by the Bureau directly or under its close supervision would scarcely be surmised from its title. It not only includes those responsibilities usually imposed on health organizations in the United States, such as the collection and compilation of vital statistics and the protection of the public from dangerous communicable diseases, but it also embraces the distribution of public charities, the care of the insane, the care of orphans, the care of the aged, the administration of general and special hospitals, the hygienic and medical care of civilian employees (of whom there are over 12,000 in the service), the administration of the Food and Drugs Act, the duties of coroner's physician and of police surgeon, the making of all physical examinations for entrance into the public services, the enforcement of the plumbing and building ordinances, investigation of water supplies and the passing upon the analyses of all artesian well water before its use is permitted, and many other duties too numerous to mention.

The supervision of the general hospitals operated by the Government has thrown a great amount of additional work upon the Bureau, but the wisdom of having all hospitals administered from a central office is frequently illustrated by the advantage and economy to be gained by standardizing supplies, and the transfer of personnel from a hospital which is perhaps in its slack season to a hospital where the work is very heavy. In short, the elasticity which it gives in the personnel has made it possible to administer the hospitals in the Philippines in a manner and with an efficiency that will compare favorably with those in the most advanced countries. The responsibility of teaching and disciplining the large amount of unskilled labor, which must of necessity be used in hospitals, has been very heavy, because the selection of a wrong bottle, the misplacing of a label, or the improper handling of a poisonous solution may at any time mean the loss of a life.

LOW DEATH RATE AMONG GOVERNMENT EMPLOYEES.

The death rate among Government employees for the year just closed has been 3.18 per thousand. After reasonable allowance is made for the small number of very old people and the absence of children in the Government service, and the further fact that the employees are mostly preferred risks, yet the death rate is still lower than that of the civilian population of any other country. The rate among Americans was 2.47 per thousand; the rate among Filipinos was 3.46 per thousand.

PUBLIC LAUNDRIES.

The subject of public laundries is one that has been frequently discussed in previous annual reports; but in spite of the fact that the matter has been kept constantly before the lawmakers, progress in this direction has not been as satisfactory as it should have been. In view of the foregoing, it is a pleasure to report that a public laundry has been completed in Sampaloc district at 279 Calle Lipa and is now open for public use.

ARTESIAN WELLS.

Gratifying progress still continues to be made in the installation of artesian wells throughout the provinces. During the year just ended 119 new wells have been installed, and since the beginning of the boring of artesian wells in 1906, 790 have been completed.

MANILA SANITARY SEWER CONNECTIONS.

The sanitary sewer system which was put into operation in 1909 at a cost of ₱4,000,000 is not coming into general use as rapidly as it should. Connections have been made as follows during the fiscal years—

1909 and 1910	566
1911	1,058
1912	950
1913	503

The slow progress made in compelling house owners to connect with the sewer may be ascribed to the injunction which was issued against the Director of Health on January 25, 1910, and which has been stubbornly fought in the courts and was only dissolved in September during the current fiscal year. The need for a good sewer system for a city like Manila, that is built upon a low tidal flat, is obvious, and it seems unreasonable to believe that after the taxpayers have spent ₱4,000,000 to correct this condition, that the attempt to bring about its general use should be seriously hindered by legal technicalities.

LEGISLATIVE GRANTS TO PRIVATE ORGANIZATIONS.

During the year the Legislature by Act No. 2247 appropriated the sum of ₱8,000 for the maintenance of the Mary Johnston Hospital, ₱12,000 for the Society for the Protection of Infants, and ₱50,000 for the Philippine Islands Antituberculosis Society, all of which is to be used in furthering lines of work in which the Bureau of Health is engaged. In this connection attention is invited to the fact that the present legislation makes no provision for inspection or supervision or for accounting as to the manner in which these funds are spent.

REGULATIONS FOR THE PHILIPPINE GENERAL HOSPITAL.

During the year there has been prepared and put into printed form a revision of the rules and regulations for the conduct of the Philippine General Hospital. This pamphlet makes a 16mo document of 145 pages and required an enormous amount of painstaking work. The rights and privileges of patients are clearly set forth, as well as those of all officials and employees connected with the institution.

CIRCULAR OF INFORMATION REGARDING THE PHILIPPINE GENERAL HOSPITAL.

There has also been prepared in printed form a small circular of information with regard to the rules which govern the admission of Government and other patients to the Philippine General Hospital, and other pertinent information. A copy of this circular has been sent to every Government employee, and it is hoped that it will result in the hospital becoming more and more useful for those who have need of its aid. The Philippine General Hospital is a most modern institution and is thoroughly equipped with all instruments of precision and other apparatus ordinarily found in the best hospitals in the Unted States or Europe, so that those who are unfortunate enough to fall ill may rest assured that there are facilities for doing everything possible to restore them to health.

ARMY BOARD FOR THE STUDY OF TROPICAL DISEASES AS THEY EXIST IN THE PHILIPPINE ISLANDS.

The personnel of the board has undergone a change and is now composed of Maj. Percy M. Ashburn as chairman, and Capt. E. B. Vedder, and Lieut. E. R. Gentry, members. Considerable assistance has again been rendered by this board to the public health service by its investigations of problems which are not only of interest to the Army but to this Bureau as well. Among the most notable and probably far-reaching is the work which was done in connection with beriberi, and particularly the researches which were made into the disease known locally as taón (infantile beriberi?), which is thought to be connected with the high infant mortality of the Philippines and for the successful treatment of which the prospects are now so hopeful.

PHILIPPINE TRAINING SCHOOL FOR NURSES.

After considerable additional experience with the pupils at the Philippine Training School for Nurses, it was deemed advisable to fix the course of training at three years, with an additional six months' post-graduate course for those who desired it. This new course has worked very well and resulted in the graduation of a higher grade of trained nurses than has yet been produced by the school.

The demand for the services especially of female nurses graduated by the school still continues to be greater than the supply, and in order to relieve the situation as much as possible, a number of graduates from other schools that are not nearly so well equipped as the Government school have been admitted and given a special course of from six to twelve months' duration in order to fit them for the positions which were vacant. The graduates of the school have not only done excellent work in the different hospitals to which they have been assigned, but they have opened up an excellent field by the success which they have obtained in their district nursing work; and there is reason to believe that much sanitary improvement and a betterment of sociological conditions can be brought about, particularly in the provinces, by their more general employment. The services of the nurses who have been employed by the provincial board of Cebu have been particularly successful. These young Filipina women go from town to town, visit the sick in their homes, give public lectures, and in combating epidemic diseases, like bacillary dysentery, they have been peculiarly successful in bringing such afflictions to a speedy termination. It has been found to be of the greatest advantage to deal with the more ignorant classes through persons who can talk to them in their own dialect.

Details with regard to the number of pupils, courses, etc., can be found under the report of the superintendent of the training school.

EXAMINATION OF LABORERS FOR HAWAII.

The supervision of the medical examinations made by the physicians of the Hawaiian Sugar Planters' Association of laborers destined for Hawaii has been continued, and that the physical condition of the laborers is now satisfactory to the Hawaiian authorities is assumed from the fact that no complaints have been received during the year. Up to a few months ago it was customary not to perform the examination for hookworm and other intestinal parasites until the laborers reached Hawaii; but as many of the laborers proved themselves intractable to treatment and had to be returned, it was suggested that the examination and treatment take place in the Philippines before the laborers were permitted to embark, which suggestion was carried out. All laborers now pass through the quarters which the Hawaiian Planters' Association has provided for the purpose at No. 22 Calle San Nicolas, Manila.

SANITARY INSPECTORS' HANDBOOK.

The need of a textbook for teaching the rudiments of sanitary science and hygiene has long been acutely felt, but the pressure of work has been so great in the past that it has not been possible to devote the necessary time to its preparation. During the year, however, a text for a handbook has been prepared and the manuscript is now with the printer.

The purpose of this handbook is to furnish the lay sanitary inspectors in Manila and the provinces with a guide written in simple language as to the nature of his duties and brief quotations from and references to the authority under which he may carry them out.

It is hoped that in the near future a uniform sanitary code, based upon a model prepared by Drs. Manuel Gomez, Salvador del Rosario, and Francisco Lopez y Lubelza will be in force in all the provinces.

In order to keep the size of the volume down to the smallest practicable proportions, much detail matter has been omitted and some branches of work were not included. It is thought, however, that enough information has been included to make it possible, if faithfully applied, to keep a town in good sanitary condition and to provide for the care of dangerous communicable diseases in accordance with modern practice.

As soon as sufficient time has elapsed for sanitary inspectors to become familiar with the contents of this book it is the intention to test their knowledge by holding examinations from time to time.

PLUMBERS.

The requirement of the Revised Ordinances that no person shall conduct or engage in the business, trade, or calling of plumbing without first having obtained a license therefor has effectually elevated the standard of this line of work in the city of Manila.

A licensed master plumber must be 21 years of age and of good reputation in order that he may be permitted to prove by a satisfactory written and practical test before a board of plumbing examiners his skill and responsibility as a master plumber, and in addition, if his examination is satisfactory, he must file a bond in the sum of ₱500 signed by two satisfactory sureties or by an acceptable surety company conditioned for the faithful performance of his duties in accordance with law.

The present board of examiners consists of the sanitary engineer of the Bureau of Health, the inspector of plumbing of the city of Manila, and the master plumber of the Bureau of Public Works.

PHYSICAL EXAMINATIONS.

The medical examination required of applicants for the Philippine Civil Service, Philippine Training School for Nurses, and motor-vehicle drivers is conducted by the Bureau of Health, at Station J, Intramuros.

The following table shows the number of persons examined, the result of such examination, and cause for rejections:

	Passed.	Rejected.	Total.
First-class policeman (American)	64	2	66
First-class fireman (American)	17	0	17
First-class prison guards	14	2	16
Second-class prison guards	27	5	32
Second-class fireman	11	1	12
Third-class patrolman	149	13	162
Third grades	16	0	16
Third grade apprentices	152	47	199
Messengers	14	0	14
Second grades	11	0	11
First-grade clerks	1	0	1
Machinists	1	0	1
Provincial police	10	0	10
Nurses, male	20	0	20
Junior surveyors	40	7	47
Third-grade custom guards	9	1	10
Promotion, police sergeants	1	0	1
Clerks, certified appointments	270	25	295
Motor drivers	483	5	488
Total	1,310	108	1,418
Poor vision (motor driver)		5	
Under weight		23	
Under height		37	
Tuberculosis and other pulmonary conditions		43	
Total		108	

All physical examinations by Bureau of Health physicians are made in accordance with the schedule set forth in office circular L–9 dated February 3, 1913, as follows:

I. Medical inspectors, district health officers, presidents of municipal boards of health, or other physicians of the Bureau of Health, when conducting physical examinations of applicants for entrance into the civil service, or of applicants for the position of provincial or municipal police, etc., will be guided by the following general instructions:

II. There should be recorded the name of the candidate, his age, nativity, and occupation, and a brief note made with regard to his general health and that of his family, whether any hereditary taints exist, and if he has ever suffered from any disease or accident, thus endeavoring to obtain all the information possible concerning him, his conversation at the same time enabling the examining physician to judge of his mental qualifications.

A record should be kept of such examination in a book ruled for the purpose and to contain the following information:

Name ....
Age ....
Nativity ....
Occupation ....
Weight ....
Height ....
Girth at level of umbilicus ....
Girth, thorax at level of fourth rib ....; at rest ....; at full inspiration ....; at full expiration ....
Degree of robustness ....
Vision: Refraction, left eye ....; right eye ....; color perception ....
Hearing ....
Speech ....
Nasal fossæ ....
Mouth and pharynx ....
Spine ....
Limbs ....
Pulmonary sounds: Auscultation ....; percussion ....
Pulse, number of beats per minute: At rest ....; when standing ....; after testing agility ....
Heart: Palpation ....; percussion ....; oscultation ....

Any other information which is required on the civil service form, "Record of Physical and Medical Examination," should be noted under a column headed "Remarks."

III. The applicant will be required to divest himself of all his clothing in the presence of the examining surgeon, so that any defect, as a stiff joint, deformity, etc., which the applicant would wish to conceal may be detected.

IV. Having divested himself of his clothing, he will then be placed under the sliding bar of a measuring rod, when such is available, and directed to stand erect while his height will be accurately measured. The height measure will be taken while the toes are raised, the candidate resting his feet squarely on the heel and ball of each foot.

Where no measuring rod is available a space at least 2 meters in height should be marked off on the wall and graded in centimeters.

Applicants for the position of provincial police or policeman in the provincial municipalities shall be required to come up to the following standard. Failing in this they shall be recommended for rejection. It will be noted that the minimum height is 152.4 centimeters.

Height.	Weight.	Chest measurement, normal.
Centimeters.	*Kilos.*	*Centimeters.*
152.4	45.4	73.6
154.9	45.8	74.3
157.5	46.3	74.3
160.0	46.7	75.0
162.6	49.0	76.2
165.1	49.9	76.2
167.6	50.8	76.8
170.2	52.6	77.4
172.7	54.4	78.7

Applicants for positions as clerks and stenographers, etc., where no minimum height is specified in the Civil Service Regulations shall be recommended for rejection if below a height of 137.1 centimeters.

V. A tape measure will be passed around the chest over the inferior angles of the scapulæ and directly over the nipples, and an accurate measurement taken both at forced inspiration and expiration. The tape will be passed around the chest while both arms are extended at a right angle from the sides, and the arms will then be dropped to the side while the measurements are taken.

VI. After this the color of the eyes and hair and complexion should be noted and a general inspection of the whole body made, notice being taken of the muscular development and general appearance; and at the same time tumors, ulcers, varicose veins, chronic swellings of the extremities, or any visible defect that would disqualify him for service should be carefully sought for.

VII. The head will then be examined for any depressions or irregularities that may exist, and the eyes, eyelids, nose, ears, teeth, palate, and fauces attentively noticed.

VIII. The chest will then be inspected, and the respiration, action of the heart, and condition of the lungs ascertained by auscultation and percussion.

IX. He will next be directed to stand erect, place his heels together, and raise his hands vertically above his head, the backs together, in which position he will be required to cough and make other expulsive movements, while the abdomen, the inguinal rings, and the scrotum are being examined for hernia.

X. The penis will then be examined for epispadia, hypospadia, and venereal disease; the groin for glandular enlargements; and the testicles for atrophy, induration, and other diseases.

XI. He will then be required to bend forward, the fingers touching the floor, the legs straight, and the feet widely separated, in which position the fissure between the nates will be inspected for hemorrhoids, fistula, prolapsus, or other disease of the anus, and firm pressure will be made along the whole length of the spine, at short intervals, to discover if any tenderness indicative of disease exists.

XII. Next he will be required to extend his arms laterally at right angles to the body, and then bring them together on as nearly the same level as possible both in front and behind; to pronate and supinate them rapidly; to strike out from the shoulder; to flex the arm upon the shoulder and the forearm upon the arm, and to open and close the fingers rapidly.

XIII. He will then be required to walk rapidly and to run around the room several times, to hop, first on one foot and then on the other; with his heels together, to raise himself upon his toes; to flex and extend the thigh, leg, and foot; to kick, first with one foot and then with the other, and to make several leaps in the air. While thus excited he will again be examined for lung and heart diseases, also for hernia. An examination of the urine shall be made in every case for albumen, and when the necessary reagents are on hand an examination shall be made for sugar. A simple test for albumen may be made as follows: If the urine to be tested is turbid it should be filtered before applying the test. Add 5 drops of a 5 per cent solution of acetic acid to the urine in a test tube and bring to a boil. By boiling the upper portion only, a turbidity in contrast with the clear unboiled portion will be observed if albumen is present. A few drops of nitric acid may be used instead of acetic acid.

XIV. In making the examination of the inguinal rings the surgeon will use the index finger of the hand corresponding to the side examined, thus: For the right ring the right index finger, and vice versa.

XV. The eyesight will be tested by test type, if such is available, and, if available, the Holmgren worsted test type will be employed in testing for color sense. Where no test type is available the applicant may be reported normal whenever he can read with each eye separately a letter or figure 1 centimeter in height at a distance of 20 feet and whenever there is no other defect apparent. As a substitute for the Holmgren worsted test, cards painted with the colors red, green, and blue may be used.

XVI. The hearing will also be tested by modulating the tones of the voice in conversation with the applicant, and by covering the ear while endeavoring to discover defects which may exist in the other.

XVII. Any one of the following defects will be sufficient cause to recommend rejection, viz: Decided cachexia, strumous diathesis, or apparent predisposition to any constitutional disease; permanent defects of either of the extremities or articulations; unnatural excurvature or incurvature of the spine; impaired vision (not including errors of refraction corrected by glasses); chronic disease of the visual organs; epilepsy; insanity; chronic disease of the ears; deafness; chronic nasal catarrh; polypi; chronic ulcers or cicatrices of old ulcers likely to break out afresh; chronic cardiac affections; insufficient chest expansion; hernia; sarcocele; hydrocele; varicocele (unless slight); stricture of the urethra or rectum; fistula in ano; hemorrhoids; varicose veins of lower limbs (unless slight).

XVIII. In addition to the above, the existence of any disease, physical deformity, or abnormal condition of such character as to incapacitate the candidate for the performance of his duties will be cause to recommend rejection. Special attention should be given to the examination of the lungs, and anyone showing evidence of *tuberculosis* shall be recommended for *rejection.*

CONFERENCE OF DISTRICT HEALTH OFFICERS.

It is expected that the meeting of district health officers to be held next February will be productive of many good and far-reaching results. Opportunity will be afforded for the discussion of the minor, though annoying, problems that arise so frequently. The program takes up the problems that loom up prominently on the sanitary field and it is hoped that much aid may be obtained in combating them by an exchange of views and experiences at the meeting. Lastly, it is desired that the district health officers may become better acquainted with one another, as better results are always obtained by a congenial and harmonious body.

It is hoped that the results from this meeting may be sufficiently brilliant to warrant making this conference an annual affair.

THE FLY MENACE.

The Bureau through the agency of popular lectures and the printed page has endeavored to make the fly unpopular in the

Philippine Islands. If it succeeds it will mean the prevention of much sickness and the saving of thousands of lives.

The circular issued by the Bureau on the fly menace is in substance as follows:

Flies are often the carriers of diseases, especially of cholera, dysentery, and typhoid fever. The part of the common house fly in the spread of typhoid fever is so great that among medical men it is known as the typhoid fly.

All flies are filthy. They breed in filth. Their favorite food is excrement and garbage. From filthy deposits of these materials or from a deposit of sputum they will go directly and alight upon food to be eaten by human beings, carrying with them on all parts of their bodies the germs collected from these filthy sources. Flies lay eggs in manure. The egg develops into the larva, a wormlike creature which is commonly known as a maggot, which at the end of about five days crawls into the ground and assumes a quiescent state and becomes a pupa. It remains as a pupa four or five days, when it emerges as a full-fledged fly ready to begin its mission of filth extension. An indictment against flies would not be complete unless it charged them with eating manure and sputum. They like open closets much better than they do water-closets, because they can obtain their food from such closets without much effort. They are opposed to sewers and all modern sanitary conveniences. The fly wll leave the sources of filth that have been mentioned and other sources that are too numerous to mention, because any filth suits the fly, and alight upon the food that you, or perhaps your children, are eating. They will leave the privy or a deposit of sputum and crawl upon your lips while you are taking a siesta, or perhaps accidentally fall in your tea or coffee while you are drinking it, and if it is not too warm to be partaken of it will not kill the germs which are readily washed off from the fly's body. To drink tea or coffee or liquids in which a fly has fallen is the same as eating fly soup. Yes, even worse than this, because there are some things on the fly's body that are worse than the fly itself. Flies deposit specks over all the articles in your rooms. These specks may contain the germs of tuberculosis or of typhoid fever or of cholera or of dysentery, according to the nature of the filthy food of which the fly has partaken.

It will thus be seen what a menace to health, what a danger to life, and what an enemy to happiness flies are; and if you believe in protecting your own health or the health of your family or your friends, you should enlist in the warfare against the flies and destroy them by every possible means, whether it is stated in circulars or books or whether it is devised by yourself.

As it is very difficult to kill all the flies, it becomes necessary to protect ourselves against them. This can be done by protecting foodstuffs from contamination. Food that is easily decayed should be kept in refrigerators, and other food may be kept in properly screened food safes or boxes covered with wire netting.

Garbage should be kept in galvanized-iron cans with a tight-fitting cover. These cans should be placed every night wherever the city ordinance may designate that they shall be placed, so that the contents may be collected and destroyed in a sanitary manner.

If the owners of stables would see to it that they are kept clean and that all manure is placed in a tight receptacle as soon after it is deposited as practicable, the flies would have no chance to breed, as their principal breeding place is in stable manure. The practice of using manure as a fertilizer without proper chemical treatment is to be condemned, because if there is any possible way for the flies to get into it and deposit their eggs they will do so.

In the United States there have been formed what are known as "Swat the Fly" societies. This simply means societies whose object is to protect the public and private health by the destruction of flies. Every person who is old enough to understand the matter should take an interest in this crusade against flies, and endeavor to keep his own home free from these dangerous insects and to prevent them from finding a breeding place on the premises. The young children should be taught the danger of contact with flies and instructed to look upon them as enemies that are seeking their lives. Such coöperation on the part of the people will eradicate one of the principal factors in the spread of gastrointestinal diseases, and not only bring protection to individual families but it would insure a greater measure of health and happiness for all the people throughout the land.

CONDEMNATION OF FRESH VEGETABLES, FRESH MEAT, AND OTHER FOODS.

Condemnation of food unfit for human consumption under the authority of local ordinance rather than under the Food and Drugs Act is effected in the city of Manila by the Director of Health or his agents under authority of section 744 of the Revised Ordinances which provides that:

> Any article of food or drink sold or offered for sale which has been declared by the Director of Health or his duly authorized representative to be unfit for human consumption, or which does not conform to the provisions of this title, shall be subject to seizure and may be destroyed, and no compensation shall be allowed therefor.

After the foods thus condemned are seized, they are delivered to the chief of the department of sanitation and transportation, a receipt taken for them, and later the foreman of the city crematory certifies that they have been destroyed.

In the provinces the procedure is almost the same if a proper municipal ordinance has been passed, but instead of crematory treatment, the spoiled articles are burned in an ordinary fire, buried, or, in some cases, thrown into the sea.

By vigilance in this matter, not only are the spoiled goods kept from sale, but a carefulness on the part of the vendors is enforced and the public health protected.

SLAUGHTER OF CARABAO.

The following circular bearing upon the question of the slaughter of carabao has been sent to all district health officers for their guidance:

CIRCULAR L–11. BUREAU OF HEALTH,
Manila, P. I., March 4, 1913.

To district health officers:

Act No. 1147 (sec. 31) provides that no carabao shall be slaughtered unless unfit for agricultural labor purposes, nor shall it be slaughtered if its flesh is unfit for human consumption.

In many cases the presidents of municipal boards of health are called upon to decide whether or not animals may be slaughtered under these provisions of law, and an instance has been brought to the attention of this office in which a president of a municipal board of health authorized the slaughter, for human consumption, of a carabao suffering from rinderpest, and no effort appears to have been made to isolate the animal, or to prevent in any way the spread of this most dangerous disease. It is needless to point out that such conduct is inexcusable, and in order to prevent a recurrence, it is requested that the presidents of municipal boards of health be directed to coöperate fully with the Bureau of Agriculture in its efforts to extirpate animal diseases from the Philippine Islands.

CIVIL SERVICE RULING ON EMPLOYEES WHO LIVE IN HOSPITALS.

The Director of Civil Service under date of April 5, 1913, made the following ruling with reference to employees who live in hospitals:

Employees who live in hospitals are regarded as subject to duty during all the time they spend in the hospital and no time record on Form 48 is required by this Bureau. Under the provisions of section 3 of civil service Rule XV, officers and employees serving in the field are not required to keep time record on Form 48. District health officers, therefore, need to keep this time record only when serving in their offices and not when in the field.

Pursuant to this ruling the following instructions were sent to all district health officers:

District health officers are required to keep an accurate time record when on duty in the office at their headquarters, and when on inspection work in their districts they shall note that fact in their daily time records for the current month.

In future, daily time records shall be made out as clearly as the above ruling of the Director of Civil Service provides for, i. e., they shall show the exact actual time spent in *office* and *inspection* work during the month.

As the absence of proper time records may jeopardize the accrued leave of an employee, the advantage of strict compliance with the provisions of this circular is apparent.

VETERINARY SANITATION.

Veterinary sanitation both in Manila and the provinces now pertains to the Bureau of Agriculture except in so far as diseases which may be communicated from the lower animals to man is involved.

The municipal veterinary problem during the year has been the suppression of rinderpest. The method relied upon is quarantine, the serum inoculation having proved unsatisfactory.

A long-needed law for the regulation of the practice of veterinary medicine and surgery has been passed and put into operation.

THE BLIND.

Apart from the school for the deaf, dumb, and blind conducted by the Bureau of Education and a few cases maintained in the Hospicio de San José by the Bureau of Health, there is very little provision made for the blind of the Philippines.

Some make their living by begging, others are engaged in directing agricultural or commercial enterprises, a few are wards of municipal governments, but the great majority are cared for by their relatives or friends.

The number of blind persons in the Philippines and the distribution of this class are shown in the following statements:

Reports received of blind persons living in the various provinces of the Philippine Islands.

Provinces.	Race.	Number of—		Children.		Single.	
		Males.	Females.	Males.	Females.	Males.	Females.
Abra	Filipino	21	21			7	4
Agusan	do	10	8	1	1	7	4
Albay	do	129	103	13	11	69	59
Ambos Camarines	do	74	62	8	5	28	32
Antique	do	52	48	3	4	24	21
Bataan	do	34	18		1	16	11
Batanes	do	13	36	1	1	1	9
Batangas	do	101	73	7	4	45	33
Bohol	do	145	106	15	1	69	72
Bulacan	do	61	62	4	4	28	29
Cagayan	do	53	31	6		18	8
Capiz	do	87	85	3	2	30	27
Cavite	do	60	57	8	7	25	23
Cebu	do	77	69	3	19	44	26
Ilocos Norte	do	41	44	2	1	8	15
Ilocos Sur	do	74	68	7	6	38	22
Iloilo	do	136	110	9	5	65	49
Isabela	do	14	18		1	3	3
Laguna	do	58	38	9	4	29	14
Leyte	do	78	41	9	4	43	23
Misamis	do	62	38	4	3	34	14
Mountain	do	49	32				
Nueva Ecija	do	52	38	6	2	17	11
Nueva Vizcaya	do	12	6	1	1	6	1
Occidental Negros	do	85	57	7	3	41	28
Oriental Negros	do	86	55	4	2	46	27
Pampanga	do	133	101	12	10	57	39
Pangasinan	do	118	101	13	8	46	37
Rizal	do	86	62	5	5	31	27
Romblon	do	20	15	4	1	7	8
Samar	do	54	35	10	2	30	24
Surigao	do	24	5	2		10	1
Tarlac	do	43	43	7	5	10	14
Tayabas	do	77	41	8	2	37	21
Union	do	33	35	3	4	14	10
Zambales	do	31	26	1	1	14	11
Total		2,283	1,788	195	130	997	757

Reports received of blind persons living in the various provinces of the Philippine Islands—Continued.

Provinces.	Race.	Married.		Widowed.		Total.
		Males.	Females.	Males.	Females.	
Abra	Filipino	8	9	6	8	42
Agusan	do	2	2		1	18
Albay	do	36	12	11	21	232
Ambos Camarines	do	21	5	17	20	136
Antique	do	17	6	8	17	100
Bataan	do	16	1	2	5	52
Batanes	do	6	7	5	19	49
Batangas	do	38	19	11	17	174
Bohol	do	49	18	12	15	251
Bulacan	do	22	12	7	17	123
Cagayan	do	25	12	4	11	84
Capiz	do	36	24	18	32	172
Cavite	do	21	14	6	13	117
Cebu	do	21	9	9	15	146
Ilocos Norte	do	26	5	5	23	85
Ilocos Sur	do	19	17	10	28	142
Iloilo	do	42	17	20	39	246
Isabela	do	7	5	4	9	82
Laguna	do	15	7	5	13	96
Leyte	do	16	5	10	9	119
Misamis	do	18	10	6	11	100
Mountain	do					81
Nueva Ecija	do	20	6	9	19	90
Nueva Vizcaya	do	3	1	2	3	18
Occidental Negros	do	13	9	24	17	142
Oriental Negros	do	27	13	9	13	141
Pampanga	do	47	23	17	29	234
Pangasinan	do	41	26	18	30	219
Rizal	do	38	15	12	15	148
Romblon	do	9	2		4	35
Samar	do	11	5	3	4	89
Surigao	do	10	2	2	2	29
Tarlac	do	14	9	12	15	86
Tayabas	do	23	9	9	9	118
Union	do	8	9	8	12	68
Zambales	do	11	4	5	10	57
Total		736	349	306	520	4,071

The Bureau of Health is now collecting data concerning blindness which will give a clue to the cause of the affection. The following circular has been sent out for the purpose stated:

CIRCULAR L—1.

BUREAU OF HEALTH,
Manila, January 2, 1913.

To all medical inspectors in charge of health stations, hospitals, and district health officers:

As the Bureau of Health is in need of some accurate statistics on the subject of the cause of blindness in the Philippine Islands, you are directed at the first opportunity to investigate at least 100 cases of blindness in your province or in your dispensary and hospital work, and submit the following information to the Bureau:

Total number of cases examined ....

Blind both eyes ....

Blind one eye ....

In each case give the number of cases that have been blind less than five years, between five and ten years, between ten and twenty years, etc.

Number of patients totally blind, giving length of time as above ....

Causes of blindness:
Smallpox ....
Cataract ....
Trachoma ....
Ophthalmia neonatorum ....
Other causes ....

Also state the different conditions present at the time of examination, such as capacity of the cornea, pannus, etc.

MORE ACCURATE VITAL STATISTICS.

DEATH CERTIFICATES AND EXHUMATION PERMITS.

The question of obtaining accurate vital statistics is the bane of the health officer's existence wherever he is found. The "mañana" habit of the Filipino people in this respect is no more discouraging than the defiant, none-of-your-business attitude of certain other races from which the Americans are not excepted. It requires a constant system of circularizing, to borrow a commercial expression, to keep up even the semblance of a system. For years the Bureau has been pounding away at this subject, exhausting much of its energy on the importance of birth statistics. These efforts are now beginning to bear fruit. Sometimes it is necessary to pause and go back over the line to see if all is well. It was on an occasion of this kind that it was found that it was necessary to do a little prodding on a question that was supposed to be clearly settled, hence the following circular on the importance of death certificates was issued:

CIRCULAR }
L–20. }

BUREAU OF HEALTH,
Manila, May 6, 1913.

To all district health officers:

It is believed that the importance of accurate statistics is fully recognized by all district health officers of the Bureau of Health, and the results that have been obtained recently in some provinces are a gratifying encouragement to the efforts that have been put forth.

Attention, however, is invited to section 15 of Act 1458, which reads as follows:

"SEC. 15. Except in cases of emergency, no dead body shall be buried without a certificate of death. If there has been a physician in attendance upon the deceased, it shall be the duty of the said physician to furnish the required certificate. If there has been no physician in attendance, it shall be the duty of a president of a municipal board of health or of any physician registered under the provisions of Act Numbered Three hundred and ten to furnish such certificate. Should no physician or medical officer be available, it shall be the duty of the president, secretary, or of a councilor of the municipality to furnish the required certificate."

This section contemplates so insistently that death certificates shall be made in the cases of those who die from other than ordinary causes, such as accidents, violence, etc., that it behooves each and every district health officer to put forth special efforts to see that in every possible case this section of the law is complied with.

It is respectfully requested that on the various inspection trips that are made the attention of the officials specifically mentioned by this section be called to its provisions and the importance of compliance therewith urged upon them.

In connection with the question of statistics, district health officers are also requested when submitting statistical reports in which the data must be classified by ages, as in the tables of deaths, of lepers, the blind, the insane, etc., to use the classification given in the table of deaths by groups of ages in Forms 43 and 46 of the Bureau of Health, as follows:

Under 30 days.
From 30 days to under 1 year.
From 1 year to under 2 years.
From 2 years to 4 years.
From 5 to 9 years.
From 10 to 14 years.
From 15 to 19 years.
From 20 to 29 years.
From 30 to 39 years.
From 40 to 49 years.
From 50 to 59 years.
From 60 to 69 years.
From 70 to 79 years.
From 80 to 89 years.
From 90 to 99 years.
100 years and over.

District health officers should immediately inform all health officials under their jurisdiction of the provisions of this paragraph, so that when statistics are submitted to the district health officers, the data will be in proper form for ready consolidation.

In this same connection it was deemed advisable to prepare instructions in Spanish for the guidance of municipal secretaries in the issuance of exhumation permits.

These instructions were sent in the form of a circular as follows:

Por la presente se llama la atención de los secretarios municipales de las provincias organizadas bajo el régimen civil, sobre la observancia de los preceptos que establece el artículo 23 de la Ley No. 1458 referente a las exhumaciones. Después de un período de tres años de inhumado un cadáver en que la causa de muerte no fué debida a enfermedad clasificada entre las contagiosas, infecciosas y trasmisibles, pueden exhumarse, previo el trámite necesario, siempre que tales restos exhumados se vuelvan a enterrar en otro cementerio.

Las solicitudes para exhumar restos después de año y medio de haberse verificado el enterramiento, deben de remitirse a esta oficina central por conducto del oficial de sanidad acompañada de una copia del certificado de defunción del finado cuyos restos se desean desenterrar, según el modelo del Buró de Sanidad artículo 16 de la citada Ley, y no de otro modo.

Una vez resuelta por esta dirección se devolverán los papeles a la oficina de procedencia por el mismo conducto.

Las peticiones de exhumación con el propósito de ser depositados los restos en cualquiera iglesia, templo o capilla de cualquiera religión o secta, pueden ser autorizadas por los secretarios municipales siempre que tengan la completa evidencia que tales restos óseos han sido enterrados por un período no menor de cinco años.

MANILA FREE DISPENSARIES.

The Bureau of Health maintains a free dispensary service at the Philippine General Hospital, the San Lazaro Hospital, and each of the five health stations and contributes medicines to St. Luke's Hospital, Mary J. Johnston Hospital, Christian Hospital, San Juan de Dios Hospital, and St. Paul's Hospital.

The dispensaries not directly under the Bureau have always made a small charge for medicines when the patients were able to pay. Until April 1 of the present year the Government dispensaries were in the strictest sense free. No charge whatever was made, but as such a system opened the way for abuses it was decided to collect a nominal fee from all who were able to pay except in the case of Government employees; so in April, 1913, the new system as outlined in the following circular was put into operation:

> Beginning April 1, 1913, all physicians who render medical services in connection with the station work shall require a ₱0.20 ticket for each prescription filled or dressing made. Government employees and dependent members of their families, and persons who are obviously paupers, shall not be required to present tickets.
>
> Medical inspectors will be furnished with tickets which they can sell to persons who are required to have them; all such tickets will be charged to the account of the medical inspectors, and the proceeds realized therefrom shall be deposited with the pharmacist at the central office of the Bureau of Health at not less than weekly intervals.
>
> Medical officers in charge of stations are hereby directed to make the necessary requisition for such number of tickets as they will require, and thereafter to include the number required on the regular monthly requisition.

The number of patients was not materially decreased by charging this small fee.

Those who are in a position to do so pay the peseta cheerfully and those who cannot do so are supplied with medicine without charge.

PLAGUE CIRCULARS.

The Bureau of Health for the Philippine Islands has obtained valuable information from published circulars regarding the methods employed in other countries in dealing with dangerous communicable diseases. Therefore it is deemed appropriate, in connection with the report on plague, to publish the following special circulars issued by the Bureau, concerning the disease and the methods of dealing with it.

CIRCULAR K–68.

BUREAU OF HEALTH,
Manila, August 15, 1912.

To district health officers:

Attention is called to the fact that there have been five cases of bubonic plague in Manila since the latter part of June.

Bubonic plague is generally regarded as primarily a disease of rats and as being transmitted to man through the medium of rat fleas. A case of human plague introduced into a country may be the cause of a circumscribed epidemic, infection being carried from man to man by the bedbug or other means.

Rats may be readily carried in cargo, in vessels, or trains from one port of the Philippine Islands to another. Or a human being may be transported suffering with the disease or may develop the condition after arrival, the period of incubation being seven days or less.

It is obviously most important at this time to investigate all suspicious cases of sickness or death, remembering that the disease is characterized by the presence of a bubo, consisting of enlargement of the glands, usually in the femoral, axillary, or cervical region. A group of glands becomes matted together, markedly hemorrhagic, and surrounded by a sanguineous, serous exudate, the whole producing a marked swelling which is edematous and very tender to the touch. Preceding and accompanying this bubo is high fever, and delirium is present during the latter stages of the disease. If death supervenes, it usually occurs on the fourth or fifth day.

Municipal officials of every municipality with the coöperation of its citizens should wage war against rats by trapping, poisoning, properly disposing of collections of rubbish in and about houses so that the rats will have no hiding or breeding places. Garbage should be properly disposed of so that the rat will be deprived of its main source of food supply.

Whenever a suspicious case has occurred petroleum or a strong carbolic-acid solution (not less than 5 per cent) should be sprayed copiously about the house and bed, etc., to kill vermin (fleas and bedbugs).

There is a form of plague known as pneumonic plague which is directly communicable from patient to contact and which is accompanied by a mortality of 100 per cent. Every case of pneumonia ending fatally in two or three days should be carefully investigated and a sample of sputum securely packed should be sent to the laboratory for investigation. When a suspicious case occurs in a community the Bureau should be notified and a medical officer familiar with the disease will be sent in consultation if practicable.

District health officers are directed to transmit the information contained herein to all presidents of municipal boards of health within their district."

CIRCULAR K–74.

BUREAU OF HEALTH,
Manila, P. I., September 13, 1912.

District health officers and medical inspectors, Bureau of Health:

Following are extracts from an article by Surgeon-General Rupert Blue, of the Public Health and Marine-Hospital Service, which are interesting and informative:

DESTRUCTIVENESS OF PLAGUE.

The destructiveness of plague may be judged from the history of one epidemic which, starting from China in 1334, killed 25,000,000 people in Europe (nearly one-fourth of the total population) within the few years following. It is caused by a bacterial germ, *Bacillus pestis*, which was discovered by Yersin at Hongkong in 1894. Primarily an ailment of rats, it is carried from rat to rat and from rat to man by the bite of the rat flea. The fleas deposit their eggs in the nests of the rats, and the latter hatch them with the warmth of their bodies.

Rat fleas bite people. Usually they prefer to bite rats; but when the plague-sick rat is dead, and his 60 or 80 "boarders" have left his cold cadaver and camped a few days without food in a crack of the floor or in a pinch of dust in a corner, they will bite anything. A white man or a Chinaman tastes just the same to them.

In India the rat catchers of the sanitary service died at a frightful rate until the case against the rat flea was established. Now they destroy the fleas by dipping the rats into a solution of corrosive sublimate. Five thousand bacilli of plague may harbor in the gizzard of a single flea, and the insect feels just as enterprising and athletic as if its digestive region contained no microbes at all. In winter, when fleas are scarce, the epidemic becomes quiescent, though spreading meanwhile among the rats, which huddle together in their burrows. But, while under such circumstances it may disappear entirely from among human beings, the disease is "stored" in the rats.

PLAGUE TRANSMISSION.

One thing to be clearly understood is that plague is not a filth disease. The well-to-do citizen is as liable as the slum dweller to catch it, if rats harbor in his house or in other places he frequents. Furthermore, if the malady once assumes the "pneumonic" form, it becomes in a manner directly infectious, the very coughing and spitting of a person afflicted with it scattering death on every hand. Rats and rat fleas in this stage of an epidemic are no longer required as intermediaries.

You see, it happens this way: When more than a certain number of cases have developed the lungs of some of the victims are liable to become infected. The germs, distributed from their sputum, get into the air. Other people breathe them, and soon the very atmosphere is poisoned. The infection then spreads like wildfire and human beings die like flies. Such is the "pneumonic plague" which recently has destroyed whole populations in China—wiping out entire towns within a few weeks.

Plague in this form is like an extremely malignant type of pneumonia, so far as its symptoms manifested in the individual are concerned. It is not always distinguishable in its commencing stages from ordinary pneumonia, but it kills with great certainty and with remarkable quickness. The lungs fill up with water and the patient dies within a day or two.

There is, however, still another form of plague—the "septicemic"—in which the symptoms produced are those of a frightful blood steam and the sufferer literally rots to death in a few days.

The association of rats with plague is so obvious as to have excited notice even in very early times. But our knowledge of the agency of the rat flea, as a carrier of the disease from rat to rat and from rat to man, has been obtained only within the last very few years. We have proved the case against the insect in many ways, of which it will suffice briefly to mention two. Healthy rats do not take the disease from plague-sick rats when confined in cages with them if the latter are first entirely freed of fleas by careful combing. Again, caged rats in an infected place do not contract plague if suspended high enough to be beyond reach of a flea's jump.

HOW TO GET RID OF RATS.

To get rid of rats, two chief methods are adopted. The rodents are deprived of shelter and are kept from access to food. These methods, which are carried out through the ratproofing of buildings, sewers, and wharves, and by systematic protection of garbage and all kinds of edible supplies, are supplemented by wholesale poisoning and trapping. Incidentally cats should be encouraged.

HOW TO BAIT FOR RATS.

The rat is more or less of an epicure, therefore the bait should be changed at frequent intervals. Also, he should be given food which he is not in the habit of getting. For example: In a meat market vegetables are the best bait, while in a location where vegetables are plentiful fresh liver and fish heads or a little grain are best. The following may be suggested as good bait to be used: Fish, fish head, raw meat, cheese, smoked fish, fresh liver, cooked corn beef, fried bacon, pine nuts, apples, carrots, and corn. When trapping in chickenyards, a small chick or duckling is remarkably good. When a large number of rats are caught in one trap, search for the female and leave her alive in the trap, as she may call in the young or the males. The bait should be fastened to the inner side of the top of the trap with a piece of fine wire so that the first rat in cannot force the bait underneath the pan and thus prevent the entrance of other rats. A few grains of barley should be scattered near the entrance of the trap and a small piece of cheese or meat fastened to the pan with a piece of wire. It is often well to touch the pan with a feather which has been dipped in oil of anise or oil of rhodium. Before leaving the trap it should be smoked with a piece of burning newspaper to kill the smell of the human hands or the rats which have been in it. Do not handle the trap after burning it out. When trapping in a neighborhood where rats are known to exist, the traps should not be moved for three or four days unless they have rats in them, as it is well for the rats to become accustomed to seeing them and thus careless about entering. It is not well to kill rats where they are caught, as the squealing may frighten the other rats away.

RAT POISON.

Phosphorus paste.—Phosphorus paste is prepared by mixing crude phosphorus in the proportion of one-half to 10 per cent in a suitable base. The latter may consist of cheese, sugar, and oil of anise mixed together and heated to the consistency of sirup, *the phosphorus being added after the fire has been withdrawn and the mixture begun to cool.* Other baits are cheese, cornmeal, and oil of rhodium; cheese, ground fish or meat, and oil of valerian; glucose and a small quantity of floor. Glucose makes an exceptionally good base, as when properly mixed the poison thus prepared is noninflammable, even when heated.

The liability to spontaneous combustion of phosphorus mixtures eliminates their use in hay, grain, or other warehouses, or places where there is danger of fire or the invalidation of insurance. It should not be forgotten that phosphorus deteriorates very rapidly, especially when it is exposed to the sun.

Arsenic paste.—This consists of arsenious acid combined with a base of cheese, meal, or macerated fish. It may be placed on raisins or prunes and is to be recommended on account of its stability, the ease with which it is handled, and the absence of danger from fire.

It should, however, be distributed with great care, every precaution being used to place it where it is inaccessible to children and domestic animals.

CIRCULAR }
K-86. }

BUREAU OF HEALTH,
Manila, November 2, 1912.

To medical inspectors in charge of health stations, Manila:

Your attention is invited to the fact that there have been many complaints relative to the poisoning of chickens by poison that has been distributed by the assistant sanitary inspectors and laborers. This not infrequently has been the result of the careless placing of poison, such as throwing it under a house, etc. It is pointed out that in such cases even children might get hold of this poison if carelessly placed, and therefore more care must be used in its distribution. It can be placed under lumber piles, in rat holes, under floors, ceilings, rafters, and, in fact, many other places where it will be out of the reach of children and domestic animals.

This letter must not be construed to mean that less poison should be used. The amount of poison should increase every day. It means that more care must be used in its distribution.

In addition to this, people living in the house should be notified that poison is being placed and to keep their chickens and animals tied up.

CIRCULAR }
K-87. }

BUREAU OF HEALTH,
Manila, November 7, 1912.

To all architects, builders, and others concerned:

In accordance with the provisions of section 769 of the Revised Ordinances of the city of Manila, all proposed new factories, stables, garages, bodegas, warehouses, multiple family dwellings, and accessories and out houses to private dwellings to be erected shall be so designed, planned, and constructed that they will not have hollow walls, hollow ceilings, hollow stairs, hollow floors, nor hollow columns, etc., which may tend to harbor, shelter, or provide access or entrance to rats or other similar vermin. All walls, etc., with the exception of solid wood framing, within 1 meter of the ground shall be of concrete, brick, stone, mortar, or other material proof against the incursion of rats and shall extend below the ground to a depth of at least twice the thickness of the wall.

Architects, builders, and others concerned are requested to incorporate the following paragraphs in plans and specifications for future buildings of this nature:

"This building will be constructed without hollow walls, hollow ceilings, hollow stairs, hollow floors, hollow columns, etc., which may in any way tend to harbor, shelter, or provide access or entrance to rats or other similar vermin.

"All walls, with the exception of solid wood framing, within 1 meter of the ground will be of concrete, brick, stone, mortar, or other material proof against the incursions of rats and will extend below the ground a depth of at least twice the thickness of the wall."

WATER AND HAND BORNE DISEASES.

(Also see Typhoid, page 128.)

There has been no cholera in the Philippines during the period covered by this report and less dysentry than in the past, but typhoid fever is becoming more and more a menace to be feared.

Fortunately, the measures against cholera and dysentery are equally as effective in typhoid fever, so in formulating a campaign of education against this disease, it was simply a matter of going over a familiar field and urging the same precautions as a preventive measure against another disease that is equally as dangerous and insidious as cholera and the dysenteries.

The following circular has been given wide circulation and gives a comprehensive idea of the general campaign against this disease that has already been inaugurated.

CIRCULAR }
K-77. }

BUREAU OF HEALTH,
Manila, September 5, 1912.

DYSENTERY, TYPHOID FEVER, AND CHOLERA.

How to avoid contracting them.—These diseases can be introduced into the system only through the mouth. They are caused by organisms too minute to be seen except with a microscope, but which may be readily killed by heat as well as by disinfectants, thus making it possible to combat such diseases successfully by the use of fire and hot water when there are no disinfectants at hand.

The following precautions should be taken at all times:

1. Use only boiled, distilled, or bottled water, or water from an approved artesian well, for drinking purposes or for cleansing the teeth and mouth.

2. Always wash the hands thoroughly after coming from stool and before eating and see that the servants do the same. In times of epidemics, the use of a 1 per cent solution of tincture of iodine or a 1 : 2,000 bichloride solution for submerging the hands after washing them affords additional safety.

3. Do not touch water or food with the hands unless they have just been washed, well dried, and disinfected when practicable. These precautions must be enforced on the servants, since it is often by their carelessness that such diseases are spread.

4. All food should be cooked. Fruit that grows on trees well above the ground may be safely eaten unless it has been contaminated by handling.

5. Flies may carry the organisms of dysentery, cholera, and typhoid on their feet; therefore, as a protection against contamination from this source, all food should be covered as soon as it is cooked.

6. All manure and garbage should be kept in covered receptacles and properly disposed of to prevent the breeding of flies.

7. Boil all water used for diluting milk.

8. Keep kitchen and table dishes thoroughly clean and scald the dishes each time before they are used.

9. Vegetables and fruits which grow on or near the ground should not be eaten unless cooked. Raw vegetables are dangerous.

10. No diarrhea or disorder of the bowels, however slight, should go untreated.

11. The bowels and other eliminating organs of the body should be kept in good condition.

12. The dejecta of dysentery patients, as well as that from typhoid and cholera patients, should be thoroughly disinfected by adding to them two or three times their bulk of 5 per cent carbolic acid; or a 1 : 1,000

solution of formaldehyde; or a 5 per cent solution of creolin; a 1:500 solution of larvacide; or by burning or boiling them. The disinfectant and the stools should remain in contact for at least one-half hour, and then they may be disposed of in the closet or by burying and covering with earth.

VICTOR G. HEISER,
Director of Health.

HOME PASTEURIZATION OF MILK.

That the high infant mortality in the city of Manila is associated with improper feeding and dirty food is well known. Fresh milk, due to unsatisfactory methods of obtaining and distributing, has an extremely high bacterial content, averaging above 7,000,000 per cubic centimeter, and therefore can readily become a cause for intestinal disturbances in infants.

For this reason it is most important that such milk should be rendered sterile before giving to infants, and the Bureau of Health has therefore had a circular printed, giving a simple method for the sterilization of milk, and this circular is being distributed by assistant sanitary inspectors in their daily house to house inspections in such a way that every native family will be furnished with a copy. Not only this, but the inspectors call their personal attention to its value and explain such parts of it as may be necessary.

Milk is the best food for infants, but it must be pure milk. It is dangerous to use dirty milk, as it produces fatal intestinal diseases, especially in infants. Pasteurization renders it safe.

The current bulletin of the Chicago health department suggests the following, by means of which a safe article of food is guaranteed:

> Take a tin pail of about the height of a milk bottle; place a saucer on the bottom of the pail; place the bottle of milk on the saucer in the pail; fill the pail with water up to the height of milk in bottle; loosen the cap on bottle; place pail over fire; as soon as water comes to a boil remove from fire; let bottle stand in the hot water for twenty minutes; in the meantime replacing cap on bottle; then place in refrigerator or in other cool place. Caution: Do not let the milk boil.

CHECK ON VACCINE VIRUS.

Each tube of vaccine virus furnished by this Bureau bears a label showing the date of manufacture of the virus and a lot number. Whenever complaint is made to this office against the quality of vaccine virus, the number and date on the tube must be stated.

The presidents of municipal boards of health, sanitary inspectors, and all others performing vaccinations should write on the stub of Form No. 36, B. of H., of the first person to be vaccinated from any particular tube, the number and date of that tube, so that if unsatisfactory results are obtained, the virus specifically at fault can be identified by number and date.

Whenever less than 50 per cent of successful vaccinations result in unvaccinated persons, and less than 20 per cent are persons who have been vaccinated successfully, the vaccine used is required to be promptly reported to this Office by date and number.

MEDICAL INSPECTION OF SCHOOLS IN MANILA.

Medical inspection of schools has been maintained during the year, but on account of the lack of adequate facilities such work has been confined almost altogether to the public schools.

The number of schools inspected was 57 and the total number of pupils 24,665. As the result of such inspections 3,539 children were referred for treatment, of which number 1,649 cases reported for treatment, as follows:

Afternoon school clinic (school inspector)	909
Eye and ear clinic, Philippine General Hospital	251
Dental clinic, Philippine General Hospital	89
Municipal physicians	22
Other physicians and clinics	378
Total	1,649

The following abstract is taken from the report of the medical inspector of schools:

The school clinic opened at the beginning of the year has proved a success and is more largely attended after the second examination than after the first.

The more serious forms of skin trouble are becoming rare. Trachoma is well under control, only one new case appearing at the time of the second examination.

One of the most troublesome problems is the presence of tuberculosis. In every school there are some cases. During the coming year I would like to see an open-air school started for the treatment of tubercular and anæmic children. For this purpose, a special building and dormitory would be needed, which, I believe, the Bureau of Education would furnish, together with a staff of teachers and proper equipment, if the Bureau of Health would provide two nurses, one for service during the day and the other for night duty. The day nurse would have to supervise the food, baths, and physical exercises, and, in addition, treat simple cases of eye, ear, and skin troubles. The night nurse would exercise general supervision during her hours of duty and also act as attendant. The medical inspector of schools could make weekly visits and act in an advisory capacity in matters of sanitation. It is gratifying to note from the inspector's report that the pupils very rarely show fear and that the slight distrust which was observed during the first year of such inspections has entirely disappeared. Much of the credit is due to the teachers who are mostly cordial in their attitude toward the work.

The following tabular statement will show the character of cases that have been referred to clinics for treatment:

	Boys.	Girls.	Referred for treatment	Treatment.	Refused for treatment.	Total.
Acne keratosa	1		1			1
Adenoids	43	13	47	9		56
Anæmia	81	60	130	11		141
Appendicitis	2		2			2
Arthritis	4	1	5			5
Astigmatism	58	17	58	17		75
Backward mentally	15	8	15	8		23
Beriberi	3		3			3
Blind	10	3		13		13
Bodily deformities	41	11	11	41		52
Cataract	5	2	6	1		7
Cervical adenitis (tubercular)	38	30	65	3		68
Chorea		1		1		1
Chronic parotitis	2		1	1		2
Conjunctivitis	100	34	123	11		134
Deaf	14	10		24		24
Defective hearing	293	67	210	150		360
Dental caries	1,722	1,222	347	2,580	17	2,944
Dengue	3	1	4			4
Discharge of one ear	24	6	29	1		30
Discharge of two ears	1	1	2			2
Dysentery	2		2			2
Eczema	8		8			8
Epilepsy	1			1		1
Favus	9	3	12			12
Gastritis	50	33	68	15		83
Goitre	1		1			1
Headache	21	10	30	1		31
Hordeolum	3		3			3
Hypermetropia	4	2	4	2		6
Hypertrophied tonsils	248	140	95	293		388
Impetigo		1	1			1
Laryngitis	7	3	9	1		10
Malaria	1	3	4			4
Migraine	5		4	1		5
Mumps	1		1			1
Myalgia	70	33	61	42		103
Myopia	134	40	93	81		174
Not vaccinated	213	210	423			423
Opacity of the cornea	19	9		28		28
Otitis media	7	2	9			9
Ophthalmitis	2		2			2
Palpitation	2		2			2
Pediculosis	3	4	7			7
Pharyngitis	11	4	15			15
Pleurisy	31	16	39	8		47
Pterygium	14	2	9	7		16
Rhinitis	3			3		3
Scabies	53	10	63			63
Strabismus	17	7	7	17		24
Synovitis		1	1			1
Tinea	689	120	381	428		809
Trachoma	222	62	284			284
Tuberculosis	97	90	187			187
Ulcers	11	1	11	1		12
Ulcer of the cornea	2		2			2
Vertigo	6	3	8	1		9
Bronchitis	622	273	634	261		895
Total	5,049	2,569	3,539	4,062	17	7,618

INFANT MORTALITY.

The disastrous effect of a high infant mortality and the need of concerted action to check it is appreciated the world over. Conditions in this country are not relatively worse than in many other parts of the world. The startling revelations of vital statistics have aroused practically every nation to the tremendous waste which the appalling death rate of children under 5 years of age imposes upon the resources of the world as represented

by its greatest assets—human life and human health. Not only must the life of the children be considered but the drain upon the mothers and the impoverishing effect upon families must enter into the final estimate. Such a drain interferes with the growth and economic progress, morality, and evolution of a country.

The moral question involved transcends the mere duty of every human being to save such lives. It will, in the course of time, exert a vital influence on a nation's faith and social attitude. Mothers who are forced to yield more than half of their children to the grave while they are yet dependent on their love for their very existence cannot forever maintain a spirit of resignation and charity. In time their hearts will harden and their attitude toward their fellow beings change, and so will a nation change, for it is upon the character of its motherhood that the character of a nation or people depends.

Thousands of dollars are spent in building life-saving stations for those who brave the fury of the angry seas; many are the devices that have been invented for rescuing those who are threatened by the flames, yet too often helpless children are left to cruel fate.

Experience and science have demonstrated that a large proportion of the children who die could be saved; that the greater part of such deaths are unnecessary; that every year countless numbers of children in every country are sacrificed on the altar of ignorance, indifference, or willful neglect.

This country is not behind in the awakening crusade that seems to be world-wide. The Philippine Legislature has taken up the question and a scientific committee is now investigating the problem. Even in the remote provinces health officers are holding hygienic conferences.

Congresses on child welfare and child hygiene have been recently held in the United States, England, France, and Germany, and meetings of this nature are being arranged for in other countries. Every phase of the question is being investigated and it is hoped that the next few years will witness a decrease in infant mortality commensurate with the efforts that are being directed against this formidable obstacle to the world's progress.

In the Philippines much evidence has accumulated which appears to show that beriberi in mothers is associated with the high death rate of children under 1 year of age.

The Committee on Infant Mortality which was created by an Act of the Legislature has been at work for more than one year and will probably make a report of its findings and recommendations in the near future.

THE PHILIPPINE ISLANDS ANTITUBERCULOSIS SOCIETY.

The existence of the Philippine Islands Antituberculosis Society as an active body dates from July 29, 1910. Long before this, however, the medical fraternity in the Islands had recognized the great necessity for such a movement and had carefully prepared the way for its organization. At the biennial meeting of the Far Eastern Association of Tropical Medicine held in Manila in March, 1910, the subject of tuberculosis in the Philippines was thoroughly discussed and it was definitely decided that no headway could be made against the spread of the disease without the coöperation of the people through a great antituberculosis organization such as now exists in most of the civilized countries of the world. It is to the credit of the people of the Philippines that they should have been the first in the Far East to make this decision and then promptly to act upon it.

The Antituberculosis Society is incorporated under the Insular law and is controlled by a council of eleven which is elected at the annual meetings by the active members of the organization. The council elects its own officers—a president, two vice-presidents, a secretary, and a treasurer. By resolution of the council the president is authorized to form divisions of the society by the appointment in any provincial capital of a director, a secretary, and a treasurer.

The annual fee for membership in the organization is ₱2.

There are many avenues through which antituberculosis work may be done, and it has been the intention of this society from the beginning to direct its efforts along every possible line and to apply to local conditions and necessities all the methods of combating tuberculosis which have proved effectual in other countries.

The most important work to be done is educational. To teach the people what tuberculosis is, and how its increase may be prevented, is to safeguard the youth of the country and to prepare the way for a stronger future generation. It is to work for those who have not yet contracted tuberculosis, by emphasizing the fact that they live in constant danger of infection, and by pointing out to them the path of safety which lies in the maintenance of general good health through the observance of simple rules of right living. Without a comprehensive program of education no antituberculosis organization could hope to attain permanent results.

The next thing of paramount importance to the success of a campaign against tuberculosis is the establishment of hospitals and sanatoria; hospitals for those advanced in the disease to a point where they require constant nursing and medical attention, and sanatoria for incipient cases.

Hospitals for advanced tuberculosis have proved the most effective agency for the rapid reduction of mortality, because in them are housed and cared for hundreds of patients each one of whom, if left in his own home, would become a danger center, menacing the lives or the health of everyone in his vicinity.

General hospitals cannot admit tuberculosis to their wards for the same reason that they cannot admit other dangerously infectious diseases. Hospitals for infectious diseases have long been provided in most civilized communities of any size the world over, but it is only in recent years that institutions for the isolation of advanced tuberculosis have come to be regarded as of first importance to the general welfare.

SAN JUAN DEL MONTE TUBERCULOSIS SANATORIUM.

At San Juan del Monte, Rizal, the society is operating a sanatorium for incipient cases and meeting with sufficient success to warrant a substantial increase in capacity in the near future. Hundreds of patients from all parts of the Islands have been admitted to this sanatorium and few cases have failed to respond to the course of treatment provided.

CLINICS AND DISPENSARIES.

In the city of Manila the society maintans five clinics and free dispensaries which have a total average weekly attendance of 328. All of these patients are visited in their homes by graduate nurses in the employ of the society who give them special instructions regarding the essential features in the treatment and prevention of tuberculosis.

In the highest sense the Philippine Islands Antituberculosis Society is an organization "of the people for the people." It has but one object in view, but one end to serve, and that is the gradual decrease of the death rate from tuberculosis and the eventual eradication of that disease from the Islands.

HEALTH AND RECREATION RESORTS.

BAGUIO.

Among the health resorts of the Philippines, Baguio holds the first place. Conditions are becoming more satisfactory every year. A cool, bracing climate, a bountiful supply of fresh water, an abundance of fresh vegetables, including strawberries and whortleberries in season, and the comforts of good hotels and restaurants make living a pleasure at this resort.

The hospital records furnish indisputable evidence of the beneficial effects of the climate on tuberculosis.

The following is taken from an article by His Excellency the Governor-General on Baguio for the Teachers' Assembly Herald:

> It is customary in tropical countries to develop and maintain at some favorable point at high altitude a resort for health and recreation purposes to which residents can go for a period of each year. In India there are several such places; Ceylon, Brazil, and Madagascar have their resorts; and the existence of a place with the climate, temperature, and attractions of Baguio within reach of Manila invited the American Government to follow the example so well set by other powers engaged in the administration of tropical dependencies. In Mexico the idea is carried one step farther. There the capital itself is situated on a plateau in the hills at an altitude of 7,000 feet. While it is not now on the cards to transfer the permanent capital of the Philippine Islands to the hills, it is almost certan that as the facilities and attractions of Baguio increase its use will become more and more general and widespread; many residents of the Philippines will make it their resort for the whole of the year; many more will come for the regular season; and others will come up from time to time as they feel the need of a change from the tropical climate below. It is also probable that Baguio, with its beautiful scenic effects, will become more and more a Mecca for tourists and possibly a regular summer resort for people in neighboring countries like Borneo, Hongkong, and other places on the China coast, particularly for such English and American people who want to mingle with their kind and enjoy the sports for which such excellent provision is made.
>
> It is to be remembered that the primary reason for the development of Baguio is as a resort. It is a place to which people exhausted or debilitated by their sojourn in the heat below may come and renew their strength and vigor and increase the number of their red corpuscles. Thus it is necessary that it should be made pleasing. It is not to be expected that Baguio will become a manufacturing or a distributing center, except as it may cater to the rather scant and very poor population tributary to it in the hills of Benguet. Its particular claim for patronage will be its health-giving qualities, and these can be greatly enhanced by making it a veritable garden spot and a city of beauty.

LOS BAÑOS.

Los Baños in La Laguna Province is the second most important resort and is frequented by many who avail themselves of the hot baths.

Besides the Army sanitarium, there is a well-conducted private hotel and sanitarium under the charge of an American physician.

SIBUL SPRINGS.

The word "sibul" in Tagalog signifies a sprudel or spouting spring. When such a spring was discovered in Bulacan Province many years ago, the people gathered there to bathe in the waters and so marvelous were the alleged cures that a town soon sprung up which naturally took the name Sibul. The place is now a barrio of San Miguel de Mayumo, a station on the Cabanatuan branch of the Manila and Dagupan Railroad, 70 kilometers from Manila and about 12 kilometers from the spring, the intervening distance being covered by an excellent public highway.

Blessed by a favorable climate and beautiful scenery, and being easily accessible by automobile from Manila, or by train to San Miguel de Mayumo, thence by carromata or automobile, Sibul is almost an ideal place for a health resort.

For many years the waters of Sibul have been held in high estimation by the people of the Philippines. Long before there existed modern facilities of transportation, the reputation of the springs had gone forth and those in position to make a pilgrimage to this Mecca of health were considered extremely fortunate.

Many famous watering resorts in Europe and America owe their success more to distinguished patronage and to their popularity in the social world than to the character of their waters. Whatever has come to Sibul Springs is not to be accounted for by the vagaries of fads and fashions, but is in response to the faith of the people in the medicinal properties of the water and in the healing power of the baths.

The dysenteries which have caused so much invalidism among Americans were also present in Spanish times, and it was the efficacy of the Sibul water in the convalescent stages of gastrointestinal diseases that furnished the foundation upon which the reputation of the springs was established.

The water of the springs is to some extent a sprudel or spouting water, cool and sparkling, alkaline in reaction, of a sulphurous odor, and having a fairly agreeable taste. It is used for bathing, drinking, and bottling purpose, or, as would be expressed in Spanish "En baño, en bebidas y en chorro." The bathing season was formerly from November to May, but so far as the American patronage is concerned custom and conventionality in this respect are ignored.

The bottled water may be obtained in first-class drug stores and is highly recommended by Spanish and Filipino physicians for moist skin diseases, low-grade ulcers, herpes, dyspepsia, gastrointestinal catarrh, chronic dysentery, liver diseases, and menstrual disorders.

PROPHYLACTIC INOCULATION.

Section 764 of the Revised Ordinances provides that compulsory inoculations may be made for the purpose of preventing or suppressing dangerous communicable diseases, provided that the inoculation substances employed are recognized as ethical and efficient by standard medical authorities. Since the plague epidemic of 1903 no compulsory work along the line of prophylaxis has been done.

The staff of nurses of the Philippine General Hospital have been vaccinated against typhoid fever. Many private individuals are now applying for typhoid vaccination which is done free of charge.

PUBLIC VEHICLES.

The Bureau of Health, the Bureau of Internal Revenue, the Society for the Prevention of Cruelty to Animals, and the police department of the city of Manila, by harmonious coöperation, have greatly improved the public carromata service which will not only result in personal comfort, but indirectly exert a beneficial influence on the public health by fostering the principles of public and personal cleanliness.

Whatever conduces to cleanliness and comfort cannot fail to produce a favorable effect on health and morality.

CEMETERY DEL NORTE.

The Cemetery del Norte is the only civil cemetery in the Philippine Islands in which graves are held in perpetuity, but provision is made for the reversion of graves and niches in this cemetery to the city of .Manila when they become vacant by reason of disinterment. If vacated within twenty-five years after concession, the city returns 75 per cent of the purchase price. If the time is more than twenty-five years but less than fifty years, 50 per cent is refunded to the relatives. If more than fifty years but less than seventy-five years after concession, the amount refunded is 25 per cent. All graves and niches vacated after the expiration of seventy-five years occupancy of the concession and not used again shall revert to the city without the obligation of returning any portion of the purchase price.

This cemetery with its many flowers, trees, monuments, and drives is one of the beautiful spots in the Philippines.

SALE OF FOOD AND DRINK IN MANILA.

The sale of food and drink on the streets of Manila is regulated by an ordinance which requires that vendors shall obtain a license from the Bureau of Internal Revenue after approval by the Director of Health.

Perishable or easily contaminated articles are required to be protected by a wire screen or wrapped in clean paper, and all places and everything used in connection with the manufacture of food must be kept in a clean and wholesome condition.

Before any license application is approved a medical inspector passes upon the facilities for keeping, in a cleanly condition, the utensils to be employed.

During the year there were issued 7,124 licenses for selling food and drinks.

DEPARTMENT OF SANITATION AND TRANSPORTATION CITY OF MANILA.

The department of sanitation and transportation of the city of Manila is charged with street sprinkling and flushing, street cleaning, collection and disposal of garbage, house refuse, and dead animals, the care of public midden sheds of which there are about 200, the collection and disposal of night soil (the pail system), the care of city cemeteries, the care of parks and grounds, the care of the zoölogical and botanical gardens, and the maintenance of the city pound. All these manifold duties have been performed well and promptly, notwithstanding the fact that a large part of the force of the department has been employed with the Bureau of Health in plague suppression work.

STREET CLEANING.

This important branch of sanitation is in charge of the department of sanitation and transportation in Manila and under the direction of the local councils in other municipalities.

In many provincial towns local ordinances require the drivers of carabao carts to provide a pail for the use of these animals so that the streets may not be made filthy.

Nowhere is the influence of American occupation better exemplified than in the cleanliness of the streets and yards now as compared with earlier days.

RESTAURANTS AND CAFÉS.

Restaurants, cafés, and public eating houses are divided into three classes: Class A, those having accommodations for 20 or more persons or guests; Class B, those having accommodations for less than 20 persons or guests; Class C, public eating places known as *carinderias.* To conduct a restaurant or eating house of whatever class it is necessary that the application to the Collector of Internal Revenue for the license should receive the favorable indorsement of both the district medical inspector and the commanding officer of the police precinct to which such restaurant or eating house pertains. This arrangement gives an opportunity for effecting necessary sanitary improvements before the issuance of the license and has resulted in great improvement in the public eating places.

During the fiscal year, 9,130 licenses were issued.

CREMATORIES.

Garbage crematories are operated by the department of sanitation and transportation.

Dead animals of over 30 pounds weight are taken to a reduction works under the control of a private company which has a contract with the city of Manila for their disposal.

The only crematories in the Philippine Islands for human bodies are the two operated by the Bureau of Health in connection with San Lazaro Hospital.

Both of the San Lazaro crematories are out of date and a new modern crematory should be built, leaving the old ones for emergencies.

As a health measure, cremation has everything to commend it and as the people become more intelligent this method of disposing of the dead will be employed more and more.

A new up-to-date crematory would give a great impetus to the cremation idea which should be fostered so far as possible.

SANITARY DRINKING CUP.

It has long been recognized that the common drinking cup is a medium of transmission for several kinds of infectious diseases—tuberculosis, syphilis, and diptheria being among those that are known to have been spread by this means.

In the more progressive churches throughout the world individual communion glasses are used in recognition of the danger from the common communion cup formerly in use.

The danger of the common drinking cup is especially imminent in institutions and it is here where the necessity for the individual cup has been urgent, but it was found impracticable to enforce proper cleanliness in the use of such cups especially among small children and the insane and feeble minded. The cup shown below costs so little that its preservation may be ignored; however, they may be used for several days and kept in a sanitary condition with very little attention when it is desired to do so. Inmates of institutions soon learn to make their own cups and take great delight in the thought of protective cleanliness which is afforded by their use.

In some of the Bureau of Health stations the idea has been put to a practical use and found to be satisfactory.

The cups are especially useful for travelers in the provinces where in many cases not even the common drinking cup or glass is to be had.

The following illustration (fig. 1) of a method of making an individual drinking cup from a square sheet of tough paper is taken from the Health Bulletin of the Rhode Island State Board of Health. Any tough paper will do for temporary use. Paraffin paper is not necessary. Not all paper is sanitary, of course, but any sheet of clean paper would probably be more sanitary than a common drinking cup.

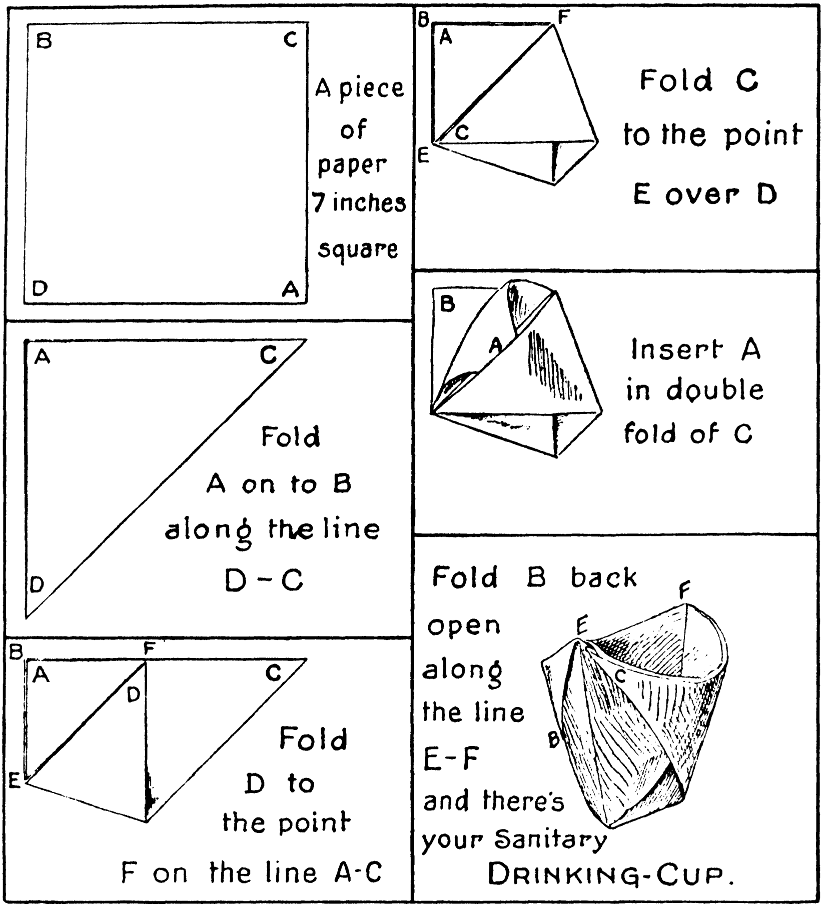

B
C
D
A
A piece of paper 7 inches square
A
C
D
Fold A on to B along the line D-C
B
F
A
C
D
E
Fold D to the point F on the line A-C
B
F
A
C
E
Fold C to the point E over D
B
A
Insert A in double fold of C
Fold B back open along the line E-F and there's your Sanitary DRINKING-CUP.
F
E
C
B

Fig. 1.

BRIEF HISTORY OF PLAGUE AND ITS PREVENTION.

The following remarks on plague by Doctor Jourdan of Philadelphia are so important that it is desired to publish them as a part of the Bureau's report on this disease:

The earliest positive account of bubonic plague dates from the second century of our era. The disease, no doubt, existed long before, but it was insufficiently described by the earlier writers for identification. During the year 542 A. D. a terrific epidemic broke out for the first time in Egypt and rapidly spread over Palestine. Its causes were not known, and the investigators of the time were so baffled by it that they finally helplessly concluded that it must have had some undiscoverable local origin. It is a matter of historic record that the plague made severe ravages throughout the Orient during the middle ages and even later. The "black death" in the fourteenth century destroyed over one-half of the population of Europe. During the fifteenth, sixteenth, and seventeenth centuries many epidemics broke out in various parts of Europe and caused great loss of life. The disease was practically endemic in the Orient. During the eighteenth and nineteenth centuries the ravages of the disease grew less in western Europe, but in the Orient they continued with great force.

These facts would to a certain extent seem to establish a direct relationship between the advance of civilization and the decrease of pestilences. The higher our state of civilization, the less favorable the pathogenic conditions, and the lower the civilization, the more favorable.

This is well illustrated by the fact that among the insanitary Egyptians, even in the middle of the nineteenth century, there were still found ophthalmia and elephantiasis, and by the fact that among the Hindus cholera and other plagues are still recurrent.

The ancients had peculiar views about the causes of pestilences; some thought that they were emanations of the anger of the gods; others ascribed them to hot south winds of long duration; others laid the cause on comets and other astronomical phenomena; some even attributed them to volcanic eruptions. But toward the middle of the Christian era those views were fortunately abandoned and more scientific views about the causes of the disease adopted. As a result the sick were better cared for.

During the latter part of the sixteenth century the Spanish Government took some steps in the way of trying to limit the spread of bubonic plague. First, they closed the theaters and forbade school and other meetings, and even religious worship. Second, the Government ordered that hospitals for plague patients should be outside of the city limits. Third, that physicians, barbers, and other attendants on plague patients should wear a leather suit. Fourth, that bonfires be lit in the evening at various places in the city. Fifth, that the dead should be buried within six hours, and their bed, effects, and other things which had come in contact with the patient burned in assigned places. But in spite of all those measures the mortality during the epidemic of 1598 was very high.

During the sixteenth and seventeenth centuries scientists came to hold many views about the cause of bubonic plague, but they arrived at no definite conclusions. In 1556, Andrés Laguna, of Segovia, Spain, who was an eminent physician of the royal court, wrote his views on this subject, stating that the disease was due to infected air breathed through the pores and thus brought in contact with the system through the arteries. In this view the writer showed that he had a good forerunning idea of the circulation of the blood. In his work he also recommended that physicians attending cases of bubonic plague should be well paid by the Government and should attend no one else. In the year 1571, Fioravanti, a Venetian physician, published his views of bubonic plague in a book entitled "Il Reggimento della Peste." In his work he argues that the disease is due to the corruption of natural heat—that is, solar heat. As a means of prophylaxis he recommends turning the day into night and vice versa—that is, to sleep in daytime and attend to business at night. As treatment he recommends bleeding from a vein near the site where a lesion first appears. He also advises the application of poultices on the buboes.

In 1643 trade between France and Spain was discontinued on account of a malignant disease which existed in France. In the year 1720 Marseilles was the site of a great epidemic which caused a frightful mortality. The royal minister of Spain sent Don Josef Fornés to Montpellier, France, to consult with other eminent men of that city about the cause and prevention of bubonic plague. When he arrived in Montpellier he consulted with Chicoyneau, Deidier, and Verni. As a result they wrote two volumes, and, while these did not throw much light on the cause of the disease, the work showed that they were becoming systematic. The first book consisted of letters exchanged between scientists in regard to bubonic plague, and set forth the views and experiences of various medical men. The second work was in five divisions. The first division outlined the cause, signs, and symptomatology of the disease; the second dealt with the means of prophylaxis; the third with the methods of curing the disease; the fourth with the differential symptomatology between the various plagues; and the fifth with the symptoms and after effects of the disease.

In 1785, Don Benito Bails, director of mathematics at the Royal Academy of San Fernandez and fellow of the Royal Academy of Spain and other honorary bodies, wrote an interesting book in which he inveighed against the habit of burying the dead in churches and other such edifices. During the eighteenth century many eminent physicians went out from France and other countries to the East to study the disease. But as their means of investigation were somewhat limited, they accomplished very little. Several of the scientists died, and others returned to their homes with but little more knowledge than before.

Between the years 1830 and 1840 several commissions which went out to the Orient to investigate the causes of bubonic plague accomplished a little more than their predecessors, especially that under the leadership of Dr. A. F. Bullard de Méru, a noted French physician who was highly honored by various nations in recognition of the excellence of his work. Most of the investigators came in direct contact with the disease, and as a result a certain number died; others never became afflicted. This peculiarity led them to conclude that the disease only affected those who were predisposed to it; and this, in turn, caused them to believe that the disease could be limited, first, by improving the hygienic conditions of life, and, second, by medical means—that is, by removing the predisposing conditions. They concluded that the disease could only be due to absorption from the lymphatic system, and must therefore gain access to the body by direct contact with the sick. As a result they separated the convalescents from those who were gravely affected. They also ordered that the rooms of the patients be disinfected and well aërated. The patients were nursed day and night. One of the great hygienic achievments of the commission of 1835 was to order the dead to be buried deeper and in lime. Up to that time the dead had been buried only a few inches below the surface, and this was, no doubt, one of the indirect causes of the spread of the disease. Medicinally, the enlargement of the lymphatic glands suggested that mercury and iodine would be good remedies, since they gave beneficial results in syphilis.

During various epidemics many observers had noticed that when an epidemic of plague occurred it was always associated with an epizoötic of high mortality among rats. This led several scientists to believe that there was a certain relation between the disease of the rodent and that of man. It was not, however, until Kitasato and Yersin discovered the plague organism in 1894 that the identity of the disease in man with that in rats was proven. They found that the bacilli recovered from the lesions in the rats and in the human beings were culturally and morphologically indentical, and that both fulfilled Koch's postulates. It was not until the year 1906 that the Indian Plague Commission proved definitively that the plague was primarily a disease of rats, and was communicated to man by the rodents. After a series of investigations the same commission showed conclusively the following year that the disease is only communicated by means of insects, and especially fleas.

The conclusions reached, then, was that bubonic plague is circulated by rats, and, as those rodents are great travelers, it became essential to stop their travel to and from ships. Reports from the Marine Hospital Service of the United States of the year 1910 show that the health officers of San Francisco, London, and Bombay were quite successful in keeping down the migration of rats and in killing those which were on ships. They prevented the rats from getting on shipboard by fending off the vessels at least 6 feet from dock; by using a rat guard on each mooring line; and by lifting up the gangways at night. The reports also show that fumigation by burning sulphur, when thoroughly carried out, is quite effectual in killing most of the rats in a ship. If, however, the work is done superficially, as is frequently the case, scarcely a single rat is killed, as the rats retreat to parts of the ship where the sulphur fumes do not penetrate.

In my experience during the past summer, on two successive voyages to Cuba and the Caribbean Sea, the fact was impressed on me that ship fumigation is commonly carried out superficially. The ship I was on was fumigated five times, viz, twice at Havana, twice at Belize (British Honduras), and once in New York, and as a result of all those fumigations the sole evident effect was the death of one rat. It is certain that rats appeared as numerous after as before the fumigation. A few days after one of the fumigations at Belize several young rats were caught in a trap. The failure was perhaps due to the fact that the health officers of either place did not fumigate the ship quite thoroughly. They only fumigated the cabin, crew's quarters, and the holds. The coal bunkers, fire and engine rooms, and other storerooms, as well as the bilges, were left unfumigated. I believe that to deal thoroughly with an empty ship it is essential to fumigate the crew's quarters, the chain lockers, the coal bunkers, and all the storerooms. Two or more bilge boards should be removed from each side of every hold, and at least two sulphur pots placed in the most suitable bilges. Then a number of pots should be placed on the floor of each hold, and when all of these have been set on fire the hold should' be tightly covered. The same procedure should be carried out in the fire and engine rooms and tunnel, viz, several floor plates should be removed and sulphur pots placed in several of the bilges and floors. This would allow the sulphur fumes to penetrate the whole ship and would make it impossible for any living animal form to survive.

It is obviously impossible for anyone who is not familiar with the architecture of a ship fully to carry out these measures. Therefore one of the qualifications of health officers whose duties include ship fumigation should be a practical knowledge of a ship's construction.

LENGTHENING HUMAN LIFE.

The results of public sanitation and the teaching of hygiene are not always apparent in the everyday affairs of life for the reason that many of them are too far removed from the initial effort to maintain a visible connection by which their etiology, so to speak, can be determined. The public mind does not even associate a reduced death rate in a given community with the gratifying effect of an increase in the average length of human life which in time is duly announced.

It is not an unusual thing for the public press to comment upon the facts of increased longevity, but it is not often that the health official is mentioned as a factor in its production.

The public has not yet realized that sanitary science has for its chief object the preservation and maintenance of human life to its ultimate limits.

Professor Hayes of Johns Hopkins University says that a hospital has three main functions—the care of the sick, the education of the people, and the advancement of science. It might be said that the health official has also three main duties—the care of the well, the education of the people with regard to the conditions of health, and the advancement of life through sanitary science.

Much more than is generally supposed has been accomplished. It is stated that the death rate during the seventeenth and eighteenth centuries ranged between 50 and 80 per 1,000 of population. To-day in such cities as New York, London, and Berlin the average is 17 to 19 per 1,000; in Connecticut it is between 15 and 16 per 1,000. This decrease is due chiefly to the protection from infectious diseases now given, and particularly to children in the early years of their lives. While this reduction in the death rate has been going on, there has been a coincident lengthening of the average duration of life. In the State of Connecticut in 1860 the expectation of life was only 30 years, while in 1908 it had increased to 44 years. In New York City it had increased from 25 years in 1866 to 42 years in 1903. With this remarkable result in the lengthening of human life, the work of life-saving among infants has fallen far behind other branches of sanitary work. If one compares the statistics of various preventable causes of death it is clear that nowhere, not even in the case of tuberculosis, is there such a needless waste of life of such numerical importance as that due to the deaths of children under 1 year of age. Fully one-half the waste is certainly preventable, and one of the most encouraging signs of the present interest in public health is the growing recognition of the importance of the campaign against infant mortality.

A health officer may be excused for magnifying the importance of his work. His view of the value of health as a public and private asset cannot be more clearly expressed than by repeating the advice of Prince Ito of Japan to his son on the occasion of the departure of the latter for Europe for study:

He pointed out that no amount of learning could be of much use unless it were accompanied by good health. A man's first duty therefore was to take care of his body. As for erudition, it should always be remembered that what one reads in books or hears in lecture halls is only a part of what one needs to know. Such learning must be supplemented by observation of men and things. Everybody that one meets in passing through life, every incident that one encounters, is an element of instruction and to profit by that instruction constitutes wisdom. In everything relating to society and its many problems there were two aspects to be considered, and nothing was more essential than to view the problems of life from every standpoint and never to fall into the error of imagining that to look at one side could suffice. It was in this quality of careful analysis that Occidentals were particularly rich and Orientals conspicuously poor. Extremes were to be avoided in everything, and a man should take for his chief guides sobriety and common sense. If a man thought to serve his country he must always be prepared to sacrifice his life on the altar of his cause.

"I often wonder myself," said the prince, "that my life has been spared for so long. If you intend to follow by example you must be inspired by a similar sentiment of resignation. Never harbor a spirit of reliance. Never depend on the strength of others. Always look to your own efforts only."

PRESERVATION OF LIFE.

The preservation of the public health is largely a matter of education. If people were as prompt to avoid health dangers as they are to avoid mechanical dangers the problem of the health officer would be easily solved. Health dangers are insidious and obscure; the disease germs cannot be seen, but education and experience are gradually teaching the people where they may naturally be expected to be found, and science shows a way to escape from their dangers. The very fact that they are not visible may account for the vastness of public and individual indifference with regard to the harm that they can do.

Cautious men and women who are afraid of being run over by a street car or an automobile, who lock their doors against thieves, who are in deadly fear of ferocious animals, or any other physical danger live intrepidly in the same house with a tubercular patient, or take no precautions to avoid the germs of dysentery, malaria, and other dangerous diseases.

All dangerous communicable diseases are produced by agents which attack from without—that is to say, that such diseases have definite, preventable causes and are not due to bad odors or climate.

The failure of the French to make a success of the Panama canal project was attributed to the effect of the tropical climate on the laborers, and many colonization and commercial projects have been abandoned for similar causes.

There is nothing obscure, profound, or difficult about sanitary science; in fact, its very simplicity is a retarding element against its more general observance. Instead of climate being responsible for the loss of many millions of dollars in Panama and the long delay in digging a canal across the Isthmus, the malaria-carrying mosquito, typhoid fever, the germs of the dysenteries, and the infecting agents of smallpox and yellow fever constitute the true cause of the failure. Climate exerted only an indirect influence in so far as it favored the growth of germ life.

No sane person desires to be sick; the desire for the health of others is the basis of all public-health efforts.

The most important duty of the health officer is the sanitary education of the people. Public sanitation, to be truly effective, must rest upon public sentiment. The people must have their part of the work and the health officer must have his, and certain accepted methods must be understood and applied by both.

The public health is protected in a simple way; the methods employed are best shown by a quotation from an address by Doctor Stanley of Shanghai on the subject of the "Trident of Health."

He said:

> After preparing the mind for the truth, the trident of health may be confidently grasped and an attitude assumed for meeting the attack of the murderous microbe. The trident of health has three points.
>
> The first point is vaccination. Vaccination for ourselves, for our relations and friends, and especially for young children; also let us look after the poor who take no heed for the morrow.
>
> The second point of the trident is pure food. Food that has been recently cooked, or boiled, or otherwise sterilized—that is to say, food freed from disease germs mainly by heat, the great destroyer of germs.
>
> The third point of the trident is to exterminate vermin, more especially house flies, mosquitoes, and rats; and all manner of dirt on which vermin thrive.

MOSQUITOES.

The campaign against mosquitoes has been carried on consistently during the year. To secure coöperation from the public, a circular was issued giving information how to eradicate the mosquito. Much of the annoyance from mosquitoes is due to the carelessness of householders who allow various receptacles which may hold water to accumulate about their premises, thus affording breeding places for thousands of mosquitoes, and to rain barrels and tanks left unscreened. Sanitary inspectors after leaving instructions one week would find the same condition the next week. In a number of instances sanitary orders were issued and the offenders brought into court and fined. A fine of from ₱5 to ₱30 seems to awaken the householder's conscience to a realization of his duty to himself and his neighbors, and later inspections of their premises show that a lesson paid for is well learned.

PIGS AS FACTORS IN THE TRANSMISSION OF CERTAIN DISEASES.

In order to deal more intelligently with the problem of the disposal of human excreta in the provinces, where no water carriage of sewage is practicable, and for the purpose of ascertaining whether the hog, which is the universal scavenger in the Philippines, might be concerned in the transmission of diseases to human beings, the Bureau of Health has had an interesting series of experiments made by the Bureau of Science and these have just been completed.

The intestinal discharges of pigs were found to contain an entamœba which closely resembled the pathogenic entamœba of man, but this was finally determined not to be identical with the entamœba histolytica. Four young pigs, used in the experiments, were naturally infected with human stools containing many encysted entamœba histolytica which had been mixed with boiled rice and fed to the pigs. Daily stool examinations, which were begun the day of the feeding, were made for a period of fifty-eight days. They constantly showed cysts of the pig entamœba, but never the entamœba histolytica. Attempts were then made to infect monkeys with the pig entamœba, but these experiments resulted negatively.

Feeding experiments were then made with hookworms which were obtained by making cultures of human fæces containing the eggs of the hookworm. A pig was then fed on a six-day culture, an eight-day culture, a thirteen-day culture, and a fifteen-day culture. Stools of this pig were examined daily for a period of two months, with negative results.

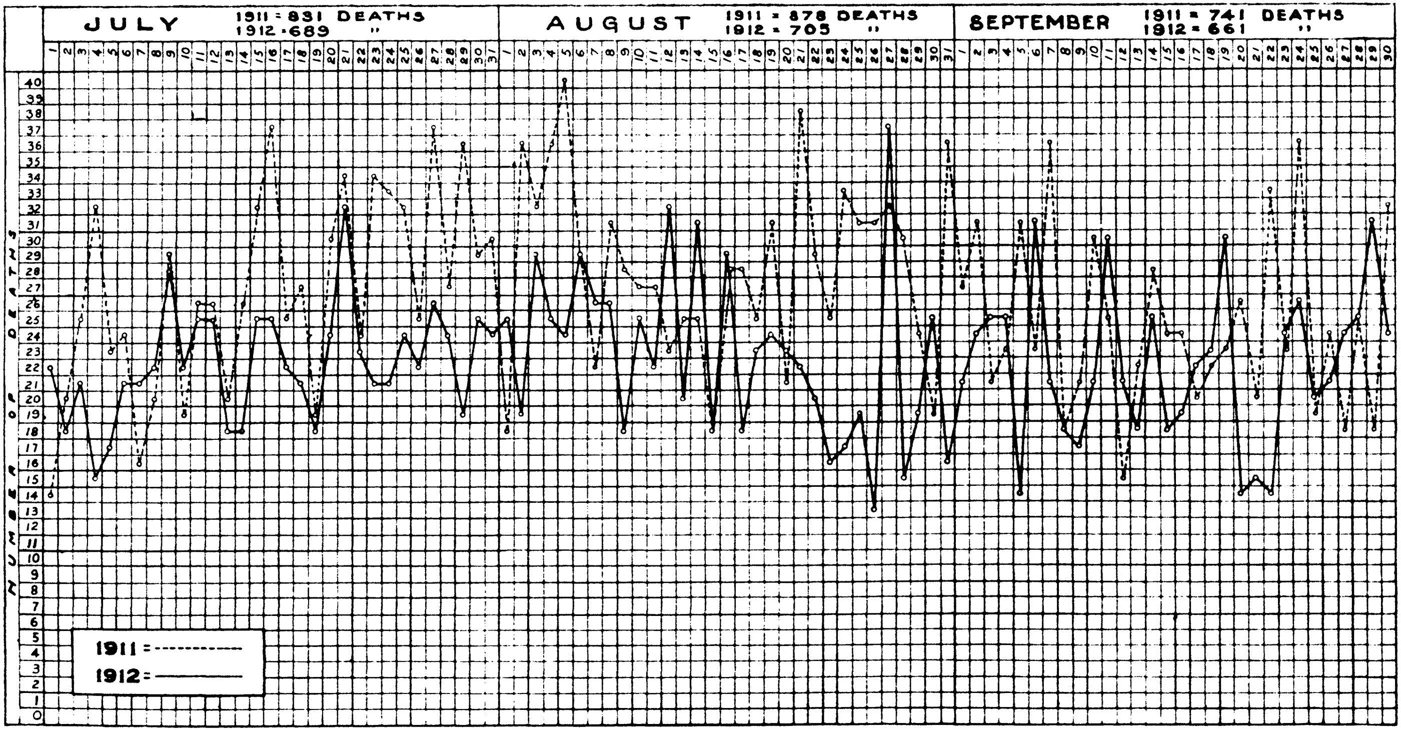
Seven monkeys were then fed fæces of a pig which contained many encysted balantidia and these were mixed with rice and fed to the animals. One monkey received direct rectal injections of the fluid stool from a man, containing many motile balantidia. The immediate result of these feeding and injection experiments appeared to be negative. However, by following the cases with daily stool examinations, and ultimately by necropsies, it was found that every one of the experimental animals became infected—that is to say, the pig balantidia behaved in the monkey like the balantidia coli does in man, it only appearing in the stools at rare intervals. In two of the cases they were never found constantly in the stools until the necropsies were made. Monkeys that were killed one month after the feeding experiments were begun showed portions of the large intestine congested and reddened, but there were no ulcerations present. Sections of such areas showed the balantidia penetrating the sound tissue into the submucosa as far as the muscularis.

From the foregoing it was concluded that the pig balantidia is identical with the balantidium coli, and is the primary etiologic agent in balantidial dysentery of man.

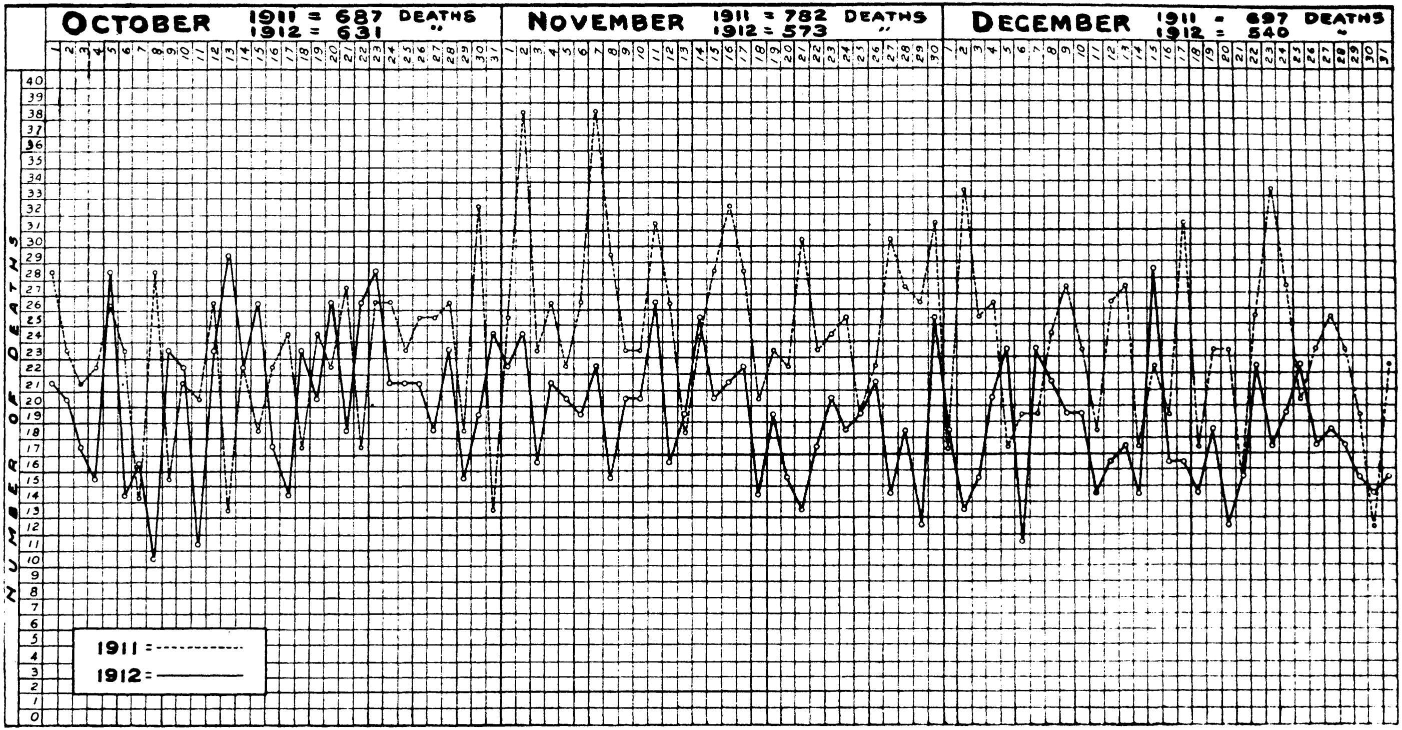
The experiments with strongyloides stercoralis resulted almost identically with those of the balantidia coli. The conclusions deduced from all of the experiments were that the domestic pig plays no rôle in the dissemination of amœbic dysentery or hookworm infection, but that it may be the source of infection in man of balantidia coli and strongyloides stercoralis in the Philippine Islands.

In order to ascertain whether the pig in the Philippines is concerned in the dissemination of cholera, and especially whether the pig may not be an important agent in aiding in the suppression of cholera, a number of experiments were carried out. A hog was fed on rice mixed with a 24-hour-old agar culture of cholera vibrio, at 8.45 in the morning, and the rectum was swabbed and the specimen planted in 300 cc. of cholera peptone the following morning. The peptone culture was examined by the hanging-drop method and found to contain a motile organism. It was then planted on Dieudonne's medium and on lactose litmus agar. The following day the rectum was again swabbed and cultures made, and these were examined by the agglutination test with anticholera serum, but no positive reaction resulted. On the fourth day, plates and peptone cultures of the third day were examined, but no cholera vibrios were found. These experiments were repeated a number of times, and finally cholera cultures were injected into the rectum of the pig and high rectal enemas were given. In some of the experiments cholera cultures with rice were given in connection with sodium carbonate, with the view to neutralizing the hydrochloric acid of the stomach; the results were, however, negative.

Similar experiments were carried out with the bacillus dysenteriæ of Flexner, and the results were practically identical with



Comparative statement of daily deaths for 1911 and 1912.



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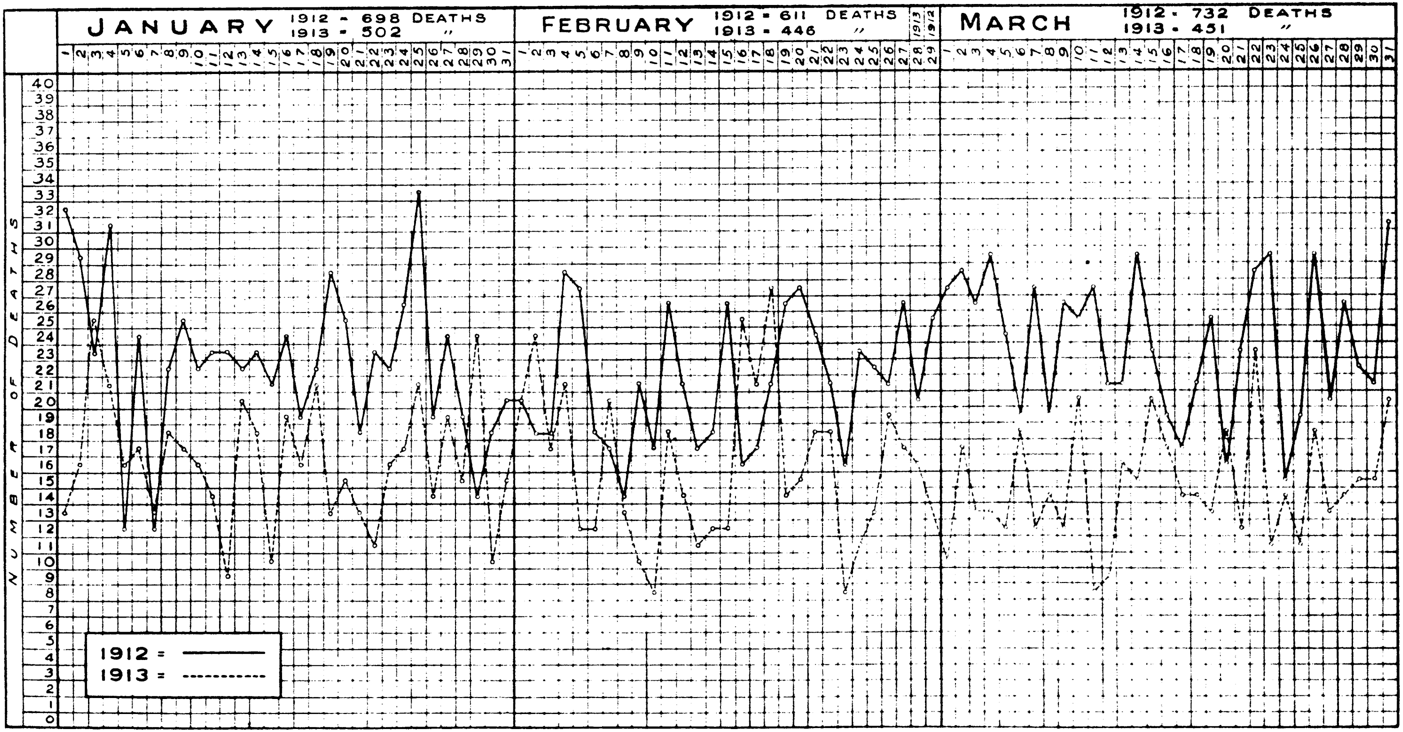

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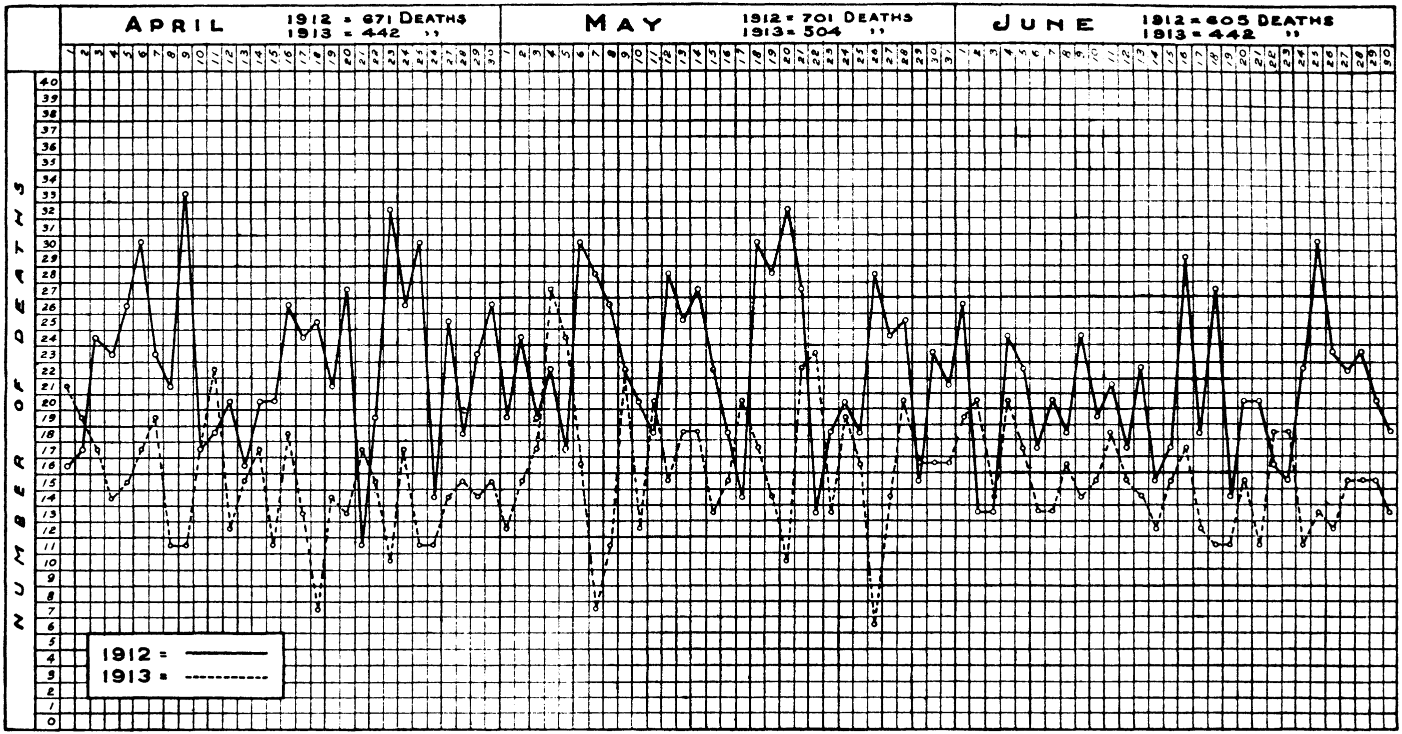


Comparative statement of daily deaths for 1912 and 1913.

those of cholera, although in one instance, in which sodium carbonate was given, an agglutination was obtained.

The conclusions reached were that the experiments directed to make hogs carriers of cholera vibrio and bacillus dysenteriæ met with negative results, as the attempt to recover the bacteria in question always resulted negatively after a period of twenty-four hours.

MANILA'S RAPIDLY DECLINING DEATH RATE.

Probably one of the most satisfactory events of the year has been the rapid decline in the death rate of the city of Manila, especially during the last six months. Reference to the following table gives the average death rate, by months, for the five years previous and the death rate for the current year:

Months.	Average death rate for 5 years previous.	Death rate for 1913.
January	40.27	25.23
February	35.07	24.76
March	33.68	22.66
April	31.62	22.95
May	31.64	25.33
June	33.58	22.95

A study of the statistics shows that the low mortality is not to be accounted for by any single factor. The greatest improvement, of course, is found among the so-called water-borne diseases, but there has also been a more marked decrease in the deaths from other diseases than could be accounted for by Hayem's theory, namely, that a reduction in the number of deaths due to an improved water supply invariably causes a reduction in the deaths from other diseases. It is thought that in Manila many factors probably enter into the matter; as, for instance, the more general use of the new sewer system, the proper disposal of garbage, the frequent sweeping of streets, the prompt isolation of all dangerous communicable diseases, improvement brought about in the food by the operation of the Food and Drugs Act, the vastly increased hospital facilities, the regulation of the milk supplies, more sanitary houses, the obliteration of many slum sections, and many other factors of perhaps lesser importance.

LEGISLATION.

The following Acts and ordinances bearing upon the interests of the public health have been passed during the year:

Act No. 2205.—An Act granting duly registered dentists certain privileges, granted by Act No. 1761 to physicians, to prescribe and administer opium, cocaine, alpha, or beta eucaine, or any derivative or preparation of said drugs or substances as a medicine for dental purposes, subject to the regulations prescribed by the Collector of Internal Revenue and approved by the Secretary of Finance and Justice.

Act No. 2227.—An Act to amend paragraph 8 of section 144 of Act No. 1189, known as the Internal Revenue Law of 1904, prohibiting the issue of internal-revenue licenses to practice medicine, surgery, and dentistry to persons not duly authorized by law, and for other purposes:

> Every lawyer, registered medical practitioner, civil, mechanical, or mining engineer, land surveyor, or architect shall pay fifty pesos: *Provided,* That every dental surgeon shall pay forty pesos: *And provided further,* That an undergraduate in medicine (cirujano ministrante) shall pay ten pesos only. Every *"procurador judicial" or "agente de negocios"* shall pay forty pesos. No occupation license shall be issued to any person as a registered medical practitioner, dental surgeon, or undergraduate in medicine (cirujano ministrante) until such person shall produce and submit to the internal-revenue officer issuing same his certificate from the proper officer or board authorizing him to practice such profession: *Provided,* That whenever any person is discovered practicing any such profession in violation of law he shall be subject to the tax in this paragraph provided on the practice of such profession and to all the penalties in this Act provided for engaging in such occupation without first paying the regular occupation license tax therefor.

Act No. 2232.—An Act to amend sections 1 and 6 of Act No. 2156 entitled:

> An Act authorizing the consolidation of municipalities into sanitary divisions and the reorganization of the municipal boards of health created by Act Numbered Three hundred and eight; defining their powers and duties, and providing for each province a special fund to be known as "health fund," for this and other purposes, by limiting the number of municipalities which may be included in a sanitary division, and to make it possible to pay incidental expenses from the funds set aside by the Act, and for other purposes.

Act No. 2236.—An Act amending sections 16 and 23 of Act No. 597, entitled "An Act regulating the practice of pharmacy in the Philippine Islands," as amended by Act No. 1921, by making further provisions relative to holding examinations, and for other purposes.

This Act provides that:

> Every person desiring to practice pharmacy in the Philippine Islands after the passage of this Act shall apply to the board of pharmaceutical examiners for a certificate of registration as registered pharmacist, but no certificate as second-class pharmacist ("practicante de farmacia") shall

be issued to any such person by the board. The examination referred to by subsection (*a*) of section three of this Act shall be held in each of the following subjects: General chemistry, inorganic chemistry and organic chemistry applied to pharmacy; physics as applied to pharmacy; botany, pharmacology, pharmacognosy, qualitative analytical chemistry and its especial application to the analysis of medicines and food stuffs, quantitative analytical chemistry, elementary toxicology and toxicological analysis and microscopy, practical pharmaceutical preparations and compounding of prescriptions. To be admitted to examination applicants must pay the secretary-treasurer of the board ten dollars as an examination fee, which amount shall serve such applicants as a fee entitling them to the certificate mentioned in section five, in case they pass their examination; they shall moreover establish that they have completed twenty-one years of age; that they have been graduated from a legally chartered school, college, or university; that they have been registered in the office of the secretary of the board as apprentices in pharmacy; that they have had at least two years practical experience in a pharmacy where the prescriptions of physicians or veterinarians are compounded and where drugs, medicines, and poisons are sold at retail: *Provided,* That from and after July first, nineteen hundred and thirteen, every person presenting himself for examination who has graduated from a legally chartered school, college, or university in which the said subjects or pharmaceutical studies are taught, in addition to the requirements hereinbefore set forth, shall submit satisfactory evidence that he has followed and has been examined in the studies preliminary to the study of pharmacy in a school, college, or university approved by the Secretary of Public Instruction: *Provided further,* That any person who has heretofore been admitted to examination, may hereafter present himself for examination without the requirements referring to preliminary studies in a college approved by the Secretary of Public Instruction: *Provided lastly,* That any candidate who has failed to pass the examination satisfactorily three times, may not again be examined before the board prior to one year from the date he was admitted to the last examination. It shall be the duty of the examining board to prepare the programme of subjects above mentioned in such manner that the same shall contain all of the knowledge that ought to be required from the candidate to show him capable of practicing pharmacy, which programme, after being approved by the Secretary of the Interior, shall be published three months before the date of the examination when it is to be used: *Provided,* That any alteration that the examining board may later wish to introduce in said programme shall also be approved by the Secretary of the Interior and published three months before the date of the examination. The pharmaceutical examining board shall issue a registered pharmacist's certificate to any one who has passed the examination mentioned in this section, but shall issue no certificate of *practicante de farmacia* to any second-class pharmacist. The examining board is hereby authorized to issue rules not in conflict with the provisions of this Act for the enforcement thereof, and prescribe penalties in said regulations not exceeding one hundred dollars fine and two months' imprisonment or both at the discretion of the court. Such rules shall have the force of law when approved by the Secretary of the Interior.

Section 23 of Act No. 597 is amended by this Act to read as follows:

> Except as to the labeling of poisons, this Act shall not apply to registered physicians putting up their own prescriptions or dispensing medicines to their patients; nor to persons selling drugs, medicines, chemicals, chemical agents, or poisons at wholesale only; nor to persons selling nonpoisonous household remedies and mineral medicinal waters: *Provided*, That the examining board shall have authority to determine what medicines shall be considered as nonpoisonous household remedies, with the approval of the Secretary of the Interior, and that the sale of such nonpoisonous household remedies by other persons than registered pharmacists is strictly prohibited in places that are not more than five kilometers distant from an established pharmacy.

Among the Acts indirectly affecting health matters besides the general appropriation Acts, mention should be made of Act No. 2186 carrying special appropriations for the Bontoc Hospital and the Butuan Hospital and for other matters which concern the Bureau of Health work in the Province of Agusan and the Mountain Province.

Act No. 2194, among other provisions, carries an item of ₱14,000 to be expended for the construction at Bontoc of nurses' quarters, storeroom, laundry and woodshed, septic vault; for the completion of the operating room; for equipment of nurses' quarters; for equipment of laundry and for necessary plumbing.

Act No. 2261 is a special appropriation Act carrying an item of ₱56,034.50 for the Southern Islands Hospital, and thus creating the institution an official entity.

Act No. 2199.—An Act to afford relief to sufferers from the typhoons of October and November, 1912.

Act No. 2201 pertains to the city of Baguio and appropriates ₱7,092 for improving the sanitary condition of small cottages inhabited by Filipino employees at Baguio; for installing open drains in connection therewith; for providing baths and sinks in such cottages; and for the construction of gravel walks and the provision of adequate lighting at night.

Act No. 2245.—An Act to regulate the practice of veterinary medicine and surgery in the Philippine Islands.

Act No. 2246 was passed for the purpose of giving the Government's committee on infant mortality more time and is entitled:

> An Act amending sections one, three, and four of Act numbered twenty-one hundred and sixteen, by extending the time granted to the committee appointed to investigate the causes of the excessive infantile mortality in the Philippine Islands, and for other purposes.

MANILA ORDINANCES.

Ordinance No. 177.—This ordinance is strictly a sanitary ordinance and is entitled:

An ordinance prohibiting the washing of garments in public esteros, in the waters of any river, creek, or waterway within the city limits, and prohibiting the use of the mouth in dampening clothes in the process of laundering.

Ordinance No. 187.—This ordinance is entitled:

An ordinance amending the proviso contained in section eight of ordinance numbered one hundred and six, relating to exemption from permit for slaughtering and killing animals included in the term "large cattle," and amending further section ten of same ordinance, relating to exemption from requirements thereof.

INDIRECT HEALTH ORDINANCES.

Ordinance No. 179.—An ordinance amending chapter 46 of the Revised Ordinances of the city of Manila relating to livery stables.

Ordinance No. 181.—This ordinance is called an ordinance repealing chapter 95 of the Revised Ordinances of the city of Manila relating to the regulation of public vehicles, and substituting in lieu thereof more stringent regulations for the purpose of securing the betterment of public vehicles.

Ordinance No. 189.—This ordinance is commonly spoken of as the Dance Hall Law. It has been mentioned more extensively in another part of this report.

Its principal provisions are that:

It shall be unlawful for any person to dance in any public dance hall in the city of Manila who has tuberculosis or any dangerous communicable disease.

It shall be unlawful for the owner, proprietor, manager, or person in charge of any public dance hall to allow or permit any female to dance in such public dance hall without having a certificate as required in section two of this ordinance.

USELESS DRUGGING.

The patent-medicine evil is being now exploited in the Philippine Islands.

A vigorous campaign of education is needed.

A practice that is laying the foundation of a vast amount of disease and of even more serious evils is the free use of poisonous drugs. When attacked by disease, many will not take the trouble to search out the cause of their illness. Their chief anxiety is to rid themselves of pain and inconvenience. So they resort to patent nostrums, of whose real properties they know little, or they apply to a physician for some remedy to counteract the result of their misdoing, but with no thought of making a change in their unhealthful habits. If immediate benefit is not realized, another medicine is tried, and then another. Thus the evil continues.

By the use of poisonous drugs, many bring upon themselves lifelong illness, and many lives are lost that might be saved by the use of natural methods of healing. The poisons contained in many so-called remedies create habits and appetites that mean ruin to both soul and body. Many of the popular nostrums called patent medicines, and even some of the drugs dispensed by physicians, act a part in laying the foundation of the liquor habit, the opium habit, or the morphine habit, that are so terrible a curse to society.

The only hope of better things is in the education of the people in right principles. Let physicians teach the people that restorative power is not in drugs, but in nature. Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health. In case of sickness, the cause should be ascertained. Unhealthful conditions should be changed, wrong habits corrected. Then nature is to be assisted in her effort to expel impurities and to reëstablish right conditions in the system.

Pure air, sunlight, abstemiousness, rest, exercise, proper diet, the use of water, trust in innate power—these are the true remedies. Every person should have a knowledge of nature's remedial agencies and how to apply them. It is essential both to understand the principles involved in the treatment of the sick and to have a practical training that will enable one rightly to use this knowledge.

The use of natural remedies requires an amount of care and effort that many are not willing to give. Nature's process of healing and upbuilding is gradual, and to the impatient it seems slow. The surrender of hurtful indulgences requires sacrifice. But in the end it will be found that nature, untrammeled, does her work wisely and well. Those who persevere in obedience to her laws will reap the reward in health of body and health of mind.

Too little attention is generally given to the preservation of health. It is far better to prevent disease than to know how to treat it when contracted.

It is the duty of every person, for his own sake, and for the sake of humanity, to inform himself in regard to the laws of life and conscientiously to obey them. All need to become acquainted with that most wonderful of all organisms, the human body. They should understand the functions of the various organs and the dependence of one upon another for the healthy action of all. They should study the influence of the mind upon the body, and of the body upon the mind, and the laws by which they are governed.

We cannot be too often reminded that health does not depend on chance. It is a result of obedience to law. This is recognized by the contestants in athletic games and trials of strength. These men make the most careful preparation. They submit to thorough training and strict discipline. Every physical habit is carefully regulated. They know that neglect, excess, or carelessness, which weakens or cripples any organ or function of the body, would insure defeat.

How much more important is such carefulness to insure success in the conflict of life. Whatever injures the health not only lessens physical vigor, but tends to weaken the mental and moral powers. Indulgence in any unhealthful practice makes it more difficult for one to discriminate between right and wrong, and hence more difficult to resist evil. It increases the danger of failure and defeat.

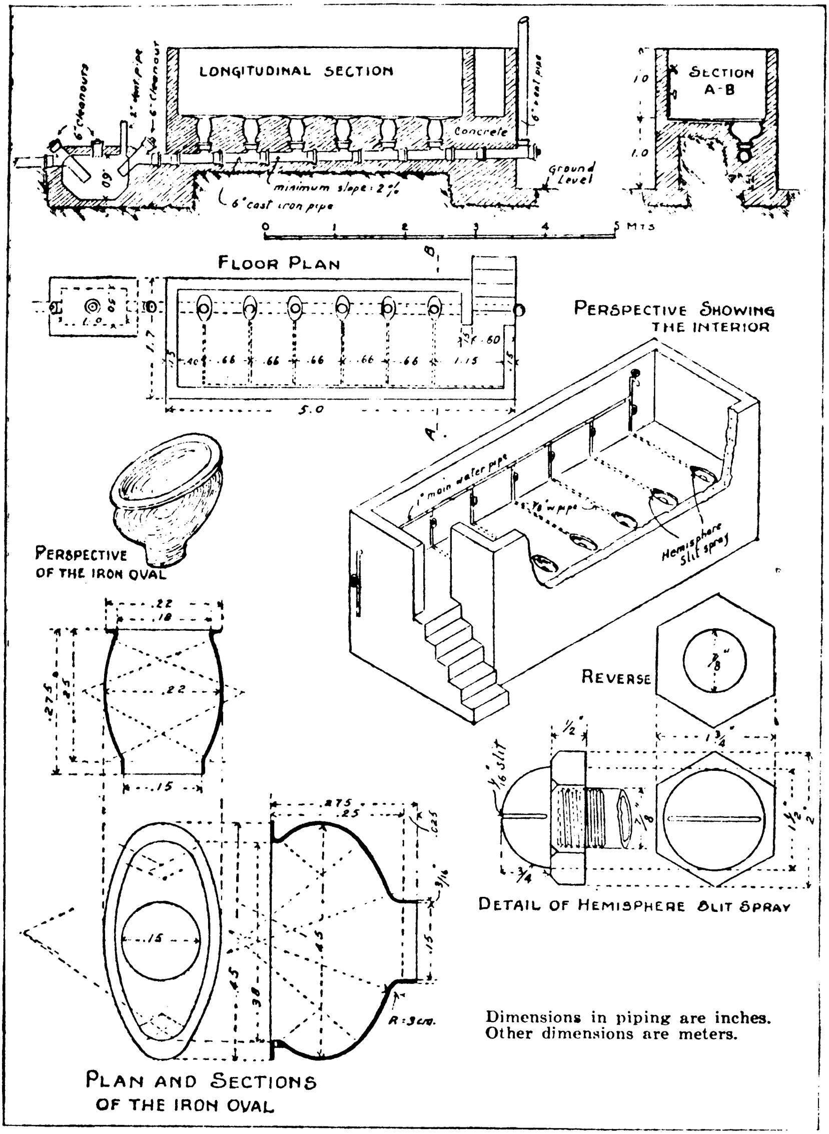
SUBSTITUTION OF FLOUR FOR RICE.

On account of the rice shortages which occurred during the past few years, this Bureau made a number of experiments with a view to ascertaining whether wheat flour could not be used to advantage as a substitute for rice and thereby keep down the cost of living. Based on the caloric values of rice and flour, it was ascertained that before wheat flour could be advantageously used rice would have to sell for ₱9.67 per sack of 125 pounds, or ₱0.077 per pound, provided wheat flour cost ₱3.08 per sack of 50 pounds, or ₱0.062 per pound.

A NEW DESIGN FOR A PUBLIC TOILET SUITABLE FOR TROPICAL COUNTRIES.

An inspection of public water-closets in the Philippines during the past ten years, as well as those in other tropical countries, has shown only too plainly that a satisfactory type of closet had not yet been evolved. On account of the fact that they are used by many ignorant persons who do not understand the management of modern plumbing, the ordinary type of wooden seat flush hopper closet has proved entirely unsuitable, because persons stand upon the seats and break them; sticks and other articles are employed in place of toilet paper, which results in continual clogging of the closet, with the consequent resulting nuisances; dirt lodges behind them, and the cost of up-keep is considerable. Many of the types recommended by well-known manufacturers were given a trial, but at best they were unsatisfactory. Experiments extending over a number of years were undertaken, but it was only during the past year that a type of toilet has been evolved which has proved very satisfactory in actual use.

Reference to the accompanying drawing (fig. 2) shows that this new range closet consists of a horizontal 6-inch soil pipe into which the desired number of hoppers drain, the tops of hoppers being even with the floor and flushed by a hemispherical slit spray



Dimensions in piping are inches.
Other dimensions are meters.

Fig. 2. Sanitary flush closet.

which is operated by a faucet located on the opposite wall. There is a cleanout at each end of the horizontal line and at the lower end there is in addition a large sealed square box in which all foreign matters, like sticks, rags, etc., collect and may be readily removed. Obstructions in the toilet can be readily cleared by inserting a hose nozzle at the upper cleanout. The floor of the toilet room itself is so designed that everything drains into the hoppers, so that the entire room can be flushed in a few moments' time with a heavy-pressure hose. These toilets have become popular even among persons who are unaccustomed to sitting on their haunches. By allowing the lower part of the back to rest against the wall a comfortable seat is obtained and the bare skin does not come into contact with the toilet. The danger of transmitting veneral disease is thus greatly lessened. Each of these toilet rooms is placed in charge of an attendant who is charged with the duty of flushing each hopper after it has been used.

DISCONTINUANCE OF UNLIMITED CHARITY SERVICE IN FILLING OF PRESCRIPTIONS.

During the past two years it has been increasingly apparent that many persons applied at the different out-patient clinics who should have sought relief from private physicians, but in view of the ever-present danger that worthy indigent persons might be unintentionally refused aid, there was considerable reluctance to enforce a set of rules and regulations designed to prevent this abuse. Upon the opening of the Philippine General Hospital, however, the abuses became so flagrant that, in order to prevent them, the physicians of Manila drafted an act which was passed by the Philippine Assembly, but failed of passage in the Philippine Commission. As an experiment, a suitable employee was selected by this Bureau to pass upon all applications for relief and is now on duty at the Philippine General Hospital. Many persons who are believed to be able to pay are turned away daily. In addition a charge of ₱0.20 is made for each prescription filled for those who are able to pay for medicine, but who are unable to pay a doctor's fee. In order to make the practice uniform, this charge for prescriptions is imposed at all other dispensaries of the Bureau of Health, and these two measures have apparently been successful in lessening the abuse, at least.

SUPERVISING NURSE.

The work of organizing the nursing service for the different hospitals of the Bureau had proceeded sufficiently far so that when the incumbent of the position resigned during the year, it was deemed unnecessary to fill the place.

LOWLANDS.

The more rapid filling in of the lowlands in Manila, a subject which has been under almost constant discussion since the organization of a Bureau of Health in the Philippine Islands, received considerable impetus during the past three months, and at this writing a project is before the Municipal Board for the adoption of a plan similar to that in force in Honolulu by which a reimbursable fund of ₱150,000 is available and when undesirable lowlands are encountered, which the owner fails or is unable to fill, the same is done by the city and charged to this fund. It has been the experience that the value of the land is so enhanced by the filling in that it more than pays for the cost of the filling and the owner, in almost every instance, is able to reclaim the land.

SANITARY INSPECTION OF TOBACCO FACTORIES IN MANILA.

The inspection of tobacco factories in Manila during the year revealed the fact that, while there are sufficient laws and regulations for maintaining cigar, cigarette, and tobacco-exporting factories in good sanitary condition, the legal means at the disposal of the Bureau for enforcing good sanitary maintenance in the nonexporting factories were unsatisfactory. Accordingly, an ordinance was drafted and approved by the Honorable the Secretary of the Interior, and is now before the Municipal Board for its consideration.

TYPHOONS.

On October 15 a most destructive typhoon passed through the Visayas, the northern end of the Province of Cebu having suffered the most, though considerable damage was sustained by Surigao, Leyte, Negros, and Panay. The preparedness of the Insular Government to cope with emergencies of this kind was well illustrated by the fact that within a period of five hours after the first news of the disaster was received by the various Bureaus, a steamer, loaded with the necessary relief supplies, was en route to Cebu. This Bureau placed on board a complete hospital equipment, with necessary medicines and supplies to relieve distress over a widely scattered territory, and 8 doctors, 6 hospital corps men, and 3 nurses. Of these, 3 medical officers and the 6 hospital corps men were furnished through the courtesy of the United States Army. After a survey of the territory had been made it was evident that in spite of the fact that an estimate of over 500 killed had been made, the number of injured was comparatively small.

A second destructive typhoon passed through the Visayas on November 27. Its principal force was felt in Tacloban and the northern end of Leyte and the eastern portion of Samar.

A relief expedition similar to that sent to Cebu was sent to Tacloban and vicinity for the purpose of rendering medical aid to those who required it. The details and casualties in connection with these typhoons are given in the reports of Medical Inspectors Smith and Norris, which follow.

MEDICAL RELIEF WORK.

The disastrous storms of October and November last, of which mention is made above, necessitated the organization of medical relief parties.

The following extracts are taken from the reports of Medical Inspectors J. W. Smith and Claude E. Norris, who were in charge of the medical sections:

Upon being ordered by your Office to take charge of the medical relief work in Cebu, at noon on October 19, 1912, the undersigned proceeded immediately to collect medical supplies, hospital equipment, surgical instruments, etc., from wherever such were obtainable. The extent of the damage caused by the typhoon not having been definitely ascertained at that time, it was not known exactly what supplies would be required. From all reports received up to that time, we were led to believe that a great many people had been killed and probably a greater number injured; consequently, we considered it advisable to take with us a full equipment of cots, bedding, medical and surgical supplies, instruments, etc., in order that we might be prepared for any emergency which might arise.

The supplies and all personnel were placed aboard in less than four hours from the time orders were received and we sailed from Manila at 4 p. m., October 19, 1912. A part of the personnel was furnished through the courtesy of the Army and the members of the medical relief party were as follows:

Captain McDiarmid, Medical Corps, U. S. Army.
Lieutenant Napier, Medical Corps, U. S. Army.
Lieutenant Weed, Medical Corps, U. S. Army.
First-Class Sergeant Rand, Medical Corps, U. S. Army.
Ten enlisted men, Medical Corps, U. S. Army.
Doctor C. E. Norris, Bureau of Health.
Doctor Vasquez, Philippine General Hospital.
Doctor Reyes, Philippine General Hospital.
Nurses:
  Juan Bautista, Bilibid Prison Hospital.
  Miss Juana Nuevo, Philippine General Hospital.
  F. Angeles, Philippine General Hospital.
  L. Mercado, Philippine General Hospital.
  L. Lionson, Philippine General Hospital.
  and myself [Dr. J. W. Smith].

Upon arrival at Cebu, 6.15 a. m., October 21, 1912, I conferred with Dr. Arlington Pond, from whom I learned to some degree the extent of the damage done by the storm in the Province of Cebu. Doctor Pond informed me that many people had been killed, but that very few were suffering from injuries, as most of those at all hurt were killed outright, the majority by drowning.

We then attended a conference called by Acting Governor-General Gilbert, as a result of which it was decided that the relief party should be divided into four sections, and assigned as follows:

Section No. 1, comprising myself, Doctor Reyes and Nurses Bautista and Angeles, to accompany Col. W. C. Rivers, Philippine Constabulary, on the coast guard steamer *Mindanao*, covering southern Leyte and northern Surigao.

Section No. 2, comprising Captain McDiarmid and Sergeant Rand, Medical Corps, U. S. Army, to accompany Major Quinn, Philippine Constabulary, on the coast guard steamer *Corregidor*, covering the west coast of Cebu and the east coast of Negros.

Section No. 3, comprising Doctor Norris and Nurse Mercado, to accompany Major Robertson, Philippine Constabulary, on the coast guard steamer *Polillo*, covering the east coast of Cebu.

Section No. 4, comprising Doctor Vasquez and Nurse Lionson, to accompany Captain Craig, U. S. Army, on the military launch *Mobile*, covering the Camote Islands.

Lieutenants Napier and Weed, U. S. Army, together with 10 enlisted men of the Hospital Corps, were relieved from duty with the Cebu relief party and returned to Manila, as their services were not required. The services of Miss Juana Nuevo not being required in connection with the relief work, she was directed to report to Doctor Pond for duty.

Each section of the relief party was supplied with surgical instruments and with two simple remedy packages No. 1, which was considered sufficient for any ordinary requirements.

RELIEF SECTION NO. 1.

October 21, 1912, 12 m., sailed from Cebu on the coast guard steamer *Mindanao* and touched at Cammigao lighthouse at 6.15 p. m. The light having been destroyed during the typhoon, the captain of the *Mindanao* sent one of the ship's lights ashore with instructions to erect same on a high pole. This being a fixed red light, the ship's light answered very well as a temporary substitute. The lighthouse employees informed us that they were well supplied with food and that none of their party nor the people in the adjoining village were in need of medical attention.

October 22, 1912, 2.30 a. m., arrived at Surigao, went ashore shortly after daylight, and conferred with Governor Soriano, who stated that he had received no information of people having been injured in his province during the storm. The city of Surigao itself had suffered considerable damage, especially to the light-material houses. The governor stated that Dinagat Island had been hard hit, the schoolhouse, the municipal buildings, the church buildings, and almost all nipa houses having been blown down, as well as great damage done to the hemp crop.

The governor also informed us that a local relief society had been organized and had already collected ₱800 by popular subscription with which they had purchased rice, and that same was being distributed to the homeless and needy.

Governor Soriano's action in this emergency is deserving of the highest commendation, and might with advantage be emulated by other provincial officials in the future.

October 22, 1912, 8 a. m., left Surigao, arriving at San Fernando, Island of Panaoan, at 11 a. m., where Loreto Tio, concejal, informed us that the town had a population of about 2,700 people of which 27 were killed during the storm; 6 of these met their death in the barrio of Castro, having been buried under a landslide, the remainder by drowning. The storm was at its heaviest about 8 a. m., October 12, 1912, blowing strongly from the northwest, afterwards changing to the southwest. We treated 12 cases here, mostly medical. One man, Lucio Abuyon, suffering from a large carbuncle (about 6 by 10 inches) on his back, was treated and removed to the Cebu Hospital for further attention. Great destruction had been caused by the storm, very few nipa houses being left standing. The concejal was instructed to clean up the town and burn the débris and decaying vegetation. We left 162 sacks of rice and 3 cases of salmon, part of which was donated and the remainder purchased by the merchants.

October 22, 1912, 4.05 p. m., left San Fernando, arriving at Liloan at 6 p. m.

In the supposedly secure harbor of Liloan, for which vessels make in the time of storm, we saw the following ships on the rocks:

Luisa, lorcha, belonging to Escaña, of Malitbog.
Victoria, steamer, belonging to Escaña, of Malitbog.
Malitbog, steamer, belonging to Escaña, of Malitbog.
Bias, steamer, belonging to Mariano Veloso of Cebu.

One may imagine something of the force of the wind and water, as one of these vessels, the steamer *Bias*, was broken into two parts; the prow turned so as to point in the same direction as the stern; the machinery was torn out of her entirely, and the wreckage scattered along the coast for a distance of 200 yards. Six passengers of the *Bias*, 4 Filipina women and 2 Chinese males lost their lives. The body of one of the Filipina women was found in the forward hold of the *Bias*. All the crew succeeded in saving themselves. Two passengers of the steamer *Malitbog* were also drowned.

The captain of the *Malitbog* informed me that all of these vessels were anchored opposite the town, having been ordered there from Malitbog for safety. All of them were swept across the bay and onto the rocks, dragging their anchors with them.

Liloan was a town of about 200 houses, 5 of which remain standing. Most of the people sought shelter in a cave in a nearby hill, thus escaping injury. The storm struck here about 8 a. m. and by 12 m. most of the damage had been done. The Catholic priest stated that about 40 persons had lost their lives during the storm, but so far as he knew, Lee Choco, a Chinaman, the sole surviving passenger of the *Bias*, was the only one injured. This man received a badly lacerated wound of the left foot, which had become infected and was rapidly becoming gangrenous when we reached there. He was operated upon the same night at Liloan, after which the foot was dressed and the man placed aboard the coast guard steamer *Mindanao* and transferred to the Cebu Hospital. The municipal authorities were directed to remove the débris from the streets, and after leaving rice for distribution among the needy, we left for Maasin, Leyte, at 4.05 a. m.

October 23, 1912, 5.50 a. m., arrived at Maasin. Here I conferred with Doctor Enage, representing the Bureau of Health, who reported 4 injured as result of the storm; as all of these cases had been attended, there remained nothing for our party to do. Twenty survivors, 1 Chinese and 19 Filipinos, of the steamship *San Rafael*, which went down off the coast of Bohol, succeeded in landing on the Leyte coast and were cared for by the people of Maasin. Two dead bodies from the same vessel were recovered on the beach near Maasin, 1 that of a Chinaman and the other that of the captain of the steamer *San Rafael.* I was informed that 62 passengers were aboard the steamer *San Rafael* when she sailed. She was anchored off the island of Santa Rosa when she foundered.

Great damage was done to the corn, coconut, and hemp crops in this locality.

We took aboard 10 enlisted men of the Philippine Constabulary at Maäsin and then left for Malitbog, where we were to take aboard a Constabulary officer to accompany this detachment of men to Liloan and vicinity to assist in the maintenance of order and to superintend the cleaning up of that town and adjacent barrios. Other detachments, as soon as obtainable, were to be sent to the opposite side of the bay to perform similar duties there.

We arrived at Malitbog at 10 a. m., October 23, 1912, and were informed that 10 persons were killed and 1 injured during the storm. The injured man, a Japanese, had left before we arrived.

We left Malitbog for Banday, Leyte, at 10.50 a. m., October 23, 1912, touching at Liloan at 11.50 a. m., where the Constabulary detachment was put ashore. Two simple remedies packages No. 1 were left with the officer in charge, an American. Arrived at Banday at 5.30 p. m., same date. As elsewhere about the bay, great destruction had here resulted to the crops, the corn, hemp, and coconuts being almost entirely destroyed. Medical assistance was rendered 17 persons in Banday. No deaths were reported.

October 24, 1912, 7 a. m., left for the town of Sogod, where we arrived at 7.35 a. m. Nearly the entire town had been obliterated by the storm and rubbish and decaying vegetation lodged in the streets to a depth of almost 1 meter. This would have promptly resulted in a very insanitary condition and possibly led to much sickness among the people. With a Constabulary officer and detachment of men patroling each side of the bay, it is believed that all insanitary conditions should be promptly remedied.

One death, a Chinaman, resulted during the storm; 2 cases were treated. After leaving some rice, we proceeded to Consolacion, where we arrived at 9.15 a. m., October 24, 1912. This place, like Sogod, had been entirely wiped out by the storm. Three persons killed. The storm center apparently passed between Malitbog and Consolacion. One Chinese merchant informed me that he had had about ₱4,500 in merchandise destroyed during the storm, and judging from the appearance of his tienda when I saw it, there was no doubt about it having been destroyed. Fifty cases were treated in this town and after leaving rice and fish, we departed for Sogod Sur, arriving there at 1.40 p. m., October 24, 1912.

Here, as in the adjoining towns, we found that great destruction had resulted from the storm. We found 3 dead. After having rendered medical attention to 11 persons and furnished the people of the town with food, we departed at 2.45 p. m. for Malitbog, where we arrived at 5.30 p. m., October 24, 1912, having again called at Liloan en route.

At Malitbog I instructed Dr. Ricardo Perramon, health officer for the Sogod bay district, regarding the cleaning up of the towns around the bay, explaining to him that much refuse and decaying vegetation was to be found in the various towns and barrios and that it was highly important that these places be inspected and put in good sanitary condition at once, and that if necessary he could call on the Philippine Constabulary to enforce his orders regarding sanitation. I left two simple remedies packages No. 1, and one simple remedies package No. 2, taking the doctor's receipt for same.

We left 347 sacks of rice and 4 cases of salmon for the use of the distressed persons of Malitbog and surrounding country.

October 25, 1912, 8.18 a. m., left Malitbog for Liloan, it having been reported to us that a man had been shot at that place the previous evening. Upon arrival there at 9.15 a. m., I found a Filipino, Juan Gonzales, suffering from a gun shot fracture of the left shoulder, the ball having passed through the anatomical neck of the left humerus, badly shattering the bone. The skin about the wounds of entrance and exit was disinfected as thoroughly as possible, antiseptic dressings applied, the arm immobilized in splints, and the man taken aboard the coast guard steamer *Mindanao* for transfer to the Cebu Hospital.

We left for Maasin at 11.30 a. m., October 25, 1912, arriving at that place at 3 p. m. Here the Constabulary lieutenant reported the finding of 2 more dead bodies on the beach October 23, 1912. These bodies had been in the water so long that it was difficult to determine their nationality, but 1 was apparently a Filipino (male) and the other, from the shape of the head and feet, was believed to be an American or European (male). The supposed American or European bore the following tattoo marks in a very artistic design:

On left forearm: Eagle, with anchor below and star above; also initials "F. S. 1902."

On right forearm: A large star, a nude female, and the initials "F. S."

The man apparently had had a very heavy growth of hair on arms and legs. Age, probably about 30 years; weight, probably 120 to 130 pounds; height, 5 feet 7 inches. These men were probably from one of the boats that went down.

We left Maasin at 9.38 p. m., October 25, 1912, arriving in Cebu at 5.50 a. m., October 26, 1912. Here I reported to Gen. H. H. Bandholtz, P. C., for instructions, and was informed that our services would no longer be required in connection with the relief work. Also that the coast guard steamer *Mindanao* would not return to Manila at that time, and that the *Polillo* would visit certain points on the east coast of Leyte, and then return to Manila. I, therefore, requested the captain of the *Mindanao* to transfer all Bureau of Health property from his ship to the coast guard steamer *Polillo*, arranging with Doctor Pond to take over the remaining simple remedies packages No. 1.

Following is a summary of the reports of the doctors in charge of the various sections:

	Deaths.	Cases treated.
Captain McDiarmid		1
Doctor Norris	17	5
Doctor Vasquez	26	
Self and party [Doctor Smith]	71	94

Doctor Pond informed me that there were over 400 deaths in the Province of Cebu alone.

Captain McDiarmid and Sergeant Rand, together with Nurses Juan Bautista, L. Mercado, and F. Angeles continued on the *Polillo* to Manila, where they arrived October 29, 1912.

Doctors Reyes, Norris, and myself returned to Manila on the steamship *J. Bustamante*, arriving on the morning of October 28, 1912.

The following is an extract of the medical relief work rendered by the party in charge of Medical Inspector Norris after the second destructive typhoon of November 27, 1912:

In Leyte, outside of Tacloban, there were 79 killed and 8 unaccounted for. In addition to these casualities, 8 patients were sent by the expedition to Tacloban for medical treatment. The number killed outright in Tacloban was 17. Every house except the post office in this municipality was damaged. The number of work and food animals killed was large, to say nothing of the destruction of other valuable property.

The total number killed in Samar was 83. There were many injured and a great amount of property destroyed and large number of food and work animals killed.

At every place that was visited the condition of sanitation was investigated, particularly the drinking water and the disposition of the accumulated decomposing and decaying vegetation and the draining of stagnant pools filled from floods of water. Petroleum was used to control mosquitoes; permanganate was used to disinfect the drinking water; and the decomposing material was used in low places for fills, and covered with clean dirt. In many places this refuse was being deposited in the sea, which they were advised was not a good practice, as it remained along the shore and decomposed.

The presidentes and municipal physicians were particularly instructed to look after the drinking water and food supply in order that no acute contagious diseases such as cholera, typhoid, dysentery, and other intestinal diseases would develop.

Inspectors Carter and Fernandez accompanied us and rendered aid in taking patients on board the steamer and assisting in dressings.

At all places visited a supply of rice was left, and the interior barrios were notified that rice could be received at certain points and instructions given that the rice should be used to help pay for the cleaning up of the towns, each person getting so much rice for his work.

In an estimate of the damage to the cocoanut trees, probably 10 to 15 per cent were not damaged, about 35 to 40 per cent were destroyed, about 50 per cent will take two or three years to recover from the damage. Hemp about 70 to 80 per cent destroyed. Bananas about 70 to 80 per cent destroyed.

DENTAL CLINICS.

In addition to the other free dental clinics conducted by Doctor Ottofy at several places in the city, a clinic on a more extensive scale has been established at the Philippine General Hospital under his supervision. A small charge is made to cover the cost of material and the current expenses in cases involving the construction of artificial dentures.

This clinic will afford an opportunity for the practical work which will be needed by the College of Dentistry of the University of the Philippines as soon as the classes are opened.

COMPARISON OF THE COST OF MEAT IN MANILA WITH THAT OF HONGKONG.

The very high cost of meat in the Philippine Islands is well illustrated by a comparison of the cost with that of Hongkong.

The following is a brief résumé of the prices of the principal cuts:

	Hongkong.[a]		Manila.[b]	
	Unit.	Cost.	Unit.	Cost.
Porterhouse	Kilo	$0.35	Kilo	$0.94
Sirloin	do	.35	do	1.72
Round	do	.35	do	.70
Rib roast	do	.35	do	.88
Soup meat	do	.28	do	.56
Soup bone	do	.07	do	.31
Flank	do	.24	do	.80
Tenderloin	do	.57	do	2.32
Ox tongue	Each	.40	Each	2.50
Ox kidney	do	.09	Kilo	.90
Tripe	Kilo	.11	do	.60
Liver	do	.24	do	.665
Heart	do	.24	do	.60
Tail	Each	.17	Each	.60
Brains	do	.09	Kilo	.90
Beef suet	Kilo	.35	do	.70
Veal	do	.35	do	₱0.60-1.30
Beef, whole hindquarters	do		do	.362
Beef, whole forequarters	do		do	.264

[a] Mexican currency. [b] Philippine currency.

From the foregoing it is apparent that not so much meat was used as would have been the case if the cost were not so prohibitive, and there can be no doubt that the withholding of better nourishment injuriously affects the health of the people.

HEALTH CONDITIONS AT BAGUIO.

It is satisfactory to report that in spite of the fact that there was a greater number of employees and other persons at Baguio during the 1913 season than at any other period in its history, the health conditions were better than they had been in the past for the corresponding period. In the past, especially when the rains began, diarrhœas and dysenteries became very common, and at times a considerable percentage of the employees were afflicted. Last year it was pointed out that this condition was probably due to faulty disposal of human excrement and failure to collect and destroy garbage. An active campaign was started during the 1912 season which was continued during the present year. Crematories were built and a daily collection of garbage and night soil was instituted, with the result that the number of flies and mosquitoes was greatly reduced, and, with the exception of a few isolated cases, diarrhœa and dysentery were conspicuous by their absence.

CHILDREN'S WELFARE MOVEMENT IN MANILA.

The first day nursery in the Philippine Islands, was opened June 16, 1913, at 229 Calle Concepción, and this is to be the nucleus for what is hoped by its promoters to be an extensive movement along this line of child-rescue work. The nursery is under the auspices of the Woman's Club, recently incoporated, and the supervision of Miss Jane S. Jackson. The beginning is being made in a very small way and the confidence of the mothers must be won, not by teaching them the use of expensive equipment and patent devices, but by demonstrating to them the value of regular hours of infant feeding, fundamental hygiene, and the best way to make use of their own household utensils. Miss Jackson's helpers are Filipina girls who spend a stipulated time in this institution learning to be trustworthy nursemaids, and that condition generally conceded to be next to godliness—cleanliness—will be the first lesson given to all concerned. The little beds are of bamboo, native-made and most inexpensive, and they are covered by the usual straw petate, over which is spread a small, clean sheet. Beside this, each bed is furnished with a light blanket and a mosquito net. The entire equipment of the establishment is of like simplicity. The daily laundry is to be done by the girls in training, in a sanitary manner. In cases of insufficiently nourished breast-fed babies the feeding of the mothers is also undertaken, and where the baby is bottle-fed the food for its consumption is prepared for not only the nine or ten hours the infant may spend in the day nursery, but for the entire twenty-four hours of each day. The salary of the superintendent is paid by the Government; the Municipal Board is responsible for the rental of the premises for one year. Miss Juana Lacoste has been detailed by the Bureau of Health to assist Miss Jackson.

The first nursery is located near three large cigar factories, the nearest being the Germinal factory, where hundreds of women are employed.

The hours of the nursery have been arranged to suit the convenience of the employees so that the children can be left in time for the 7 o'clock work hour and called for at 5 o'clock in the afternoon. On admission each day the clothing of each child is removed and put in a locker properly labeled, a bath given, after which, the child is dressed in nursery clothes which it wears until within a few minutes before going home, when its own clothes are put on it and a sufficient supply of milk measured out to last until the next day. When the mother returns after her day's work, she finds a clean baby and a supply of milk awaiting her.

It has been the practice to receive only babies, but arrangements have been made for a playground department where children up to 6 or 7 years can be entertained.

In the absence of Mrs. C. S. Lobingier, Mrs. Benjamin Arnold, as acting president of the Woman's Club of Manila, was very active in promoting and inaugurating the child's welfare society.

The duties of president devolved, by vote of the society, upon Mrs. Little upon the resignation of Mrs. Arnold who was forced to relinquish her active part in the work on account of a change in the military duties of her husband.

The idea of this character of child-welfare activity should be credited to Miss Jane S. Jackson of the Bureau of Education, but without the assistance of the Woman's Club and the friends of the movement the work could never have been undertaken. Now that the most difficult work is over the success of the work is assured.

The committee of the club in charge of the child's welfare society consists of Mrs. Hatheway (chairman), Mrs. Reed, Mrs. Parsons, Mrs. Càlderon, Mrs. De Veyra, Mrs. Shuman, and Mrs. Saleeby.

The Bureau of Health suggests that bamboo beds be discarded and enameled beds substituted.

DISPOSAL OF HUMAN WASTES IN THE PROVINCES.

[From Insects and Diseases.]

Whenever possible, it is best to dispose of human excreta by the means of modern plumbing and have it carried away by an approved sewer or discharged into a septic tank; but where such means are not available, others, though less desirable, must be substituted. The Bureau of Health has devised a pail closet which is very inexpensive even in the most isolated places. The details of its construction are shown in figure 3. The frame is made preferably of hard wood and consists of four posts set into a well-mortised frame. The posts are made of such height that when the seat is placed upon them, an ordinary 5-gallon kerosene can may be slipped into the side of the frame and be close enough to the bottom of the seat to prevent the entrance of flies. The post at the back of the frame comes through so that it may serve as a handle by which the closet may be moved from place to place and it also serves the purpose of making the lid self-closing. The can rests upon two cross strips, by which the close fit of the top of the can to the under side of the seat can be readily secured by either planing down the cross-pieces when the can fits too tight or replacing them with thicker ones when it fits too loosely. By this simple expedient the fit of the can need not be dependent upon absolutely accurate workmanship on the frame. The hole in the seat is cut diagonally, because it makes the use of the closet more comfortable because the feet can be put back. The hole is covered with a hinged seat which is made self-closing by the projection which is put on the post which comes through the seat.

The closet has the advantage of being entirely open, which fact secures good ventilation and leaves no opportunity for the collection and retention of disagreeable odors which are so common in the boxlike designs heretofore used. The entire frame can be readily cleansed. It is light, easily moved about, and where there is nothing better available it serves the purposes of a commode for a sick room.

On account of the light weight of the can as compared to the wooden pail, it is a much more simple matter to provide for an inexpensive daily collection system. The ordinary carabao or bull cart found in the provinces is admirably adapted for this service and can haul many more cans than it could pails, so that the cost can be kept down to a point which makes it possible to use a suitably located central pit into which the contents of the cans may be dumped and which can be placed in charge of an attendant.

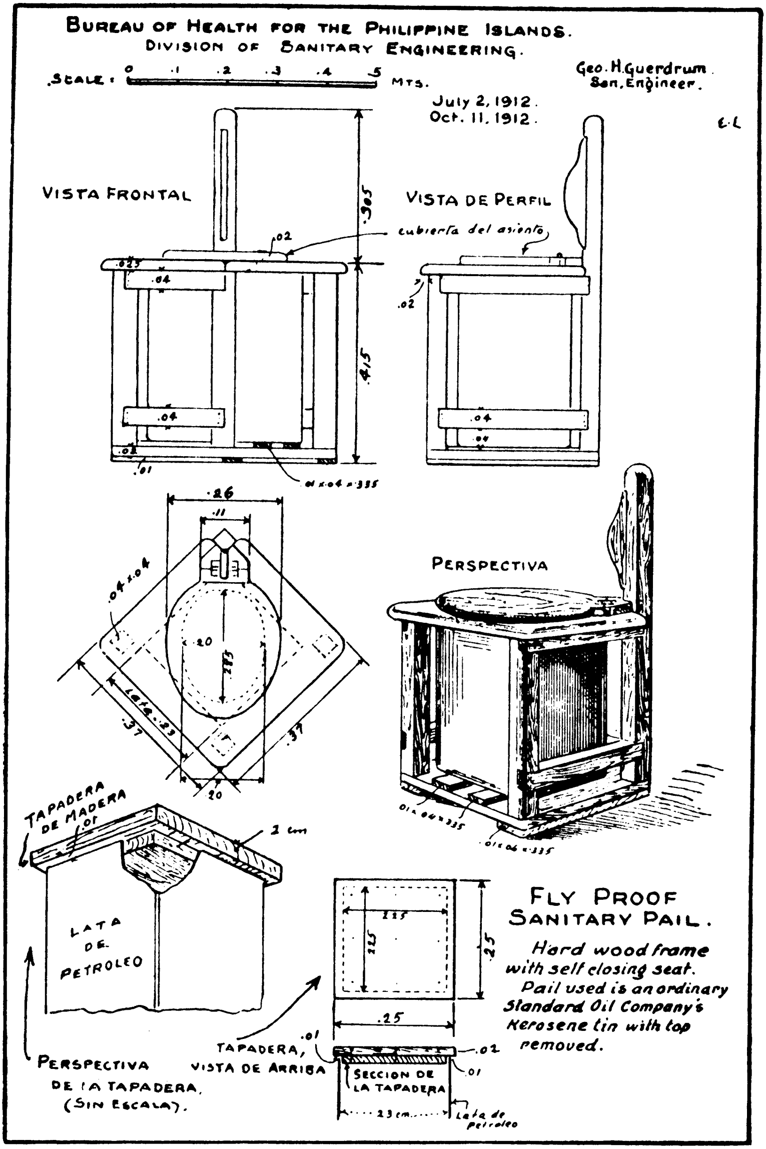


Fig. 3.

When each householder is allowed to have his own pit, the cost of the amount of inspection required to keep them from becoming nuisances is generally beyond the means of any ordinary municipality to defray.

The cans should be collected, then, every night and replaced with clean ones.

The closet also has the advantage of being complete in itself. For the regulation pail it is necessary to construct a fly-proof inclosure or house, and experience with these shows that it is most difficult to maintain them in a fly-proof condition.

An excellent start has been made in bringing about the installation of this type of pail throughout the Philippine Islands. A sample of the same was furnished each health officer, and he in turn takes it to each municipality and explains the advantages to be gained from its use. It is believed that if its introduction could be made general many thousands of lives which are now sacrificed to preventable diseases might be saved.

LOCAL PROFESSIONAL CONTROVERSY AS TO THE RIGHT OF A PHYSICIAN TO PRACTICE DENTISTRY.

A local controversy between certain Filipino physicians and Filipino dentists not only involved the respective societies, but was carried to the courts.

The cause of this unusual case was that certain physicians not registered as dentists but duly registered as physicians began the practice of dentistry without complying with the dental law, claiming that the profession of medicine included that of dentistry; that physicians are not restricted by law with regard to the remedies that they may employ or the tissues that they may treat.

The question was first taken up by the representative of the physicians in a petition to the Attorney-General for an opinion. The Attorney-General held that while the principal contentions of the physicians were meritorious, the privileges pertaining to the profession of medicine did not include that of dentistry, although they coincided at certain points.

Upon the refusal of the physicians, who were engaged in the practice of dentistry without a certificate from the Board of Dental Examiners, to discontinue their dental practice, an action was brought by the prosecuting attorney charging them with practicing dentistry illegally.

In the Government's brief, after due citation from the medical and dental laws, it was submitted that while—

Generally speaking, the study and practice of medicine and surgery must include all parts of the body without exception. So also the study of dentistry covers anatomy and physiology. But, just as the knowledge of anatomy and physiology by the dentist is not as thorough as that of the physician and surgeon, as the knowledge of the latter with regard to the science of treating the teeth is also more limited than that of the dentist. And necessarily so.

Act No. 310 prescribes the subjects for examination for those desiring to begin the practice of medicine and surgery, as follows: Anatomy, physiology, chemistry, materia medica and therapeutics, pathology and bacteriology, hygiene, surgery, practice of medicine, obstetrics, diseases of women and children, diseases of the nervous system, diseases of the eye and ear, and medical jurisprudence. Section 3 of Act No. 593, on the contrary, prescribes for the examination of candidates for the dental surgeon's certificate the following: Anatomy, physiology, histology, physics, chemistry, metallurgy, dental anatomy and physiology, dental materia medica, therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, operative dentistry, and prosthetic dentistry. From an examination of the above lists, it is seen that for the practice of dentistry it is necessary to be proficient in some subjects which are not touched upon in the examination for physicians and surgeons, and in other subjects to have a more detailed knowledge. Histology, physics, metallurgy, dental anatomy and physiology, orthodontia, operative dentistry, and prosthetic dentistry are not listed in the medical examination. The subjects requiring a more detailed knowledge are listed in the dental subjects as follows: Dental materia medica, dental pathology and bacteriology, oral surgery. It is very evident that the Legislature recognized the fact that to be a dentist necessitates the possession of knowledge not in the possession of medical graduates and practitioners, and the necessity of protecting the public by forbidding any person to practice dentistry, unless he had demonstrated to the satisfaction of the dental board that he was properly qualified and informed. The law makes no exception in favor of the physician or surgeon, generally, except "*that this provision shall not be construed to interfere with physicians or surgeons in their legitimate practice.*

The course in dentistry as prescribed by the University of Santo Tomás for the present year comprises the subjects enumerated in section 3 of Act No. 593, hereinbefore set out. The course in medicine as given by the Santo Tomás University at the present time covers a period of five years, and includes the following subjects: First year, *anatomia, embriologia, histologia normal, quimica general, fisica medica, mineralogia, botanica y zoologia, diseccion, laboratorio histologico;* second year, *fisiologia, quimica biologica, bacteriologia y parasitologia medica, laboratorio bacteriologico, laboratorio de quimica biologica, anatomia;* third year, *diagnostico fisico, anatomia e histologia patologicas, anatomia quirurgica y cirujia operatoria, fisioterapia, microscopia clinica, materia medica, farmacologia y toxicologia y arte de recetar, operaciones sobre el cadaver, en animales y en clinica;* fourth year, *patologia medica, patologia quirurgica, obstetricia, ginecologia, pediatria y cirugia ortopedica, clinica medica, clinica quirurgica, clinica obstetrica y ginecologica, higiene y sin laboratorio, medica legal, laboratorio de medicina legal y toxicologia, historia de las ciencias medicas, conferencias y clinicas de especialidades; oftalmologia, otorinolaringologia, vias urinarias, neurologia, dermatologia, y sifiliografia.* The same distinction is found in the great American and European universities.

Thus it is seen that many of the subjects necessary in dentistry are not covered in the medical course; in fact, they are entirely different courses. There are subjects that are either not treated in the medical course, or are only taken up generally, while in the dental course they are made the subject of special study. Among these are metallurgy, dental anatomy and physiology, dental materia medica, therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, operative dentistry, and prosthetic dentistry. It takes no reasoning to show that if the knowledge of these subjects is necessary for the proper and efficient practice of dentistry that the graduate in the regular course in medicine is not qualified to practice dentistry, and is not even supposed to be so qualified.

It is true that dentistry has at times been considered as a part of the whole—that is, a dentist is limited in his operations to a part of the body—while a surgeon and physician may treat the whole body. But dentistry is now well understood to be the treatment of the teeth separately and apart from the treatment of the other parts of the body, and a distinct science in itself. The Legislature enacted the law, Act No. 593, so that in the treatment of this particular part of the body, where a particular skill, learning, and practice is necessary, only those that show by certain requirements that they possess such skill, learning, and practice may treat that particular part, and others may not engage in the practice of such profession, without a full compliance with the law, both in spirit and letter, no matter to what heights their learning along other lines may have attained.

The judge's decision was given in accord with the contentions of the defendants.

MORGUES.

In the city of Manila three morgues are operated under the supervision of the Bureau of Health; one at San Lazaro Hospitals for cases dead of dangerous communicable diseases, one at Bilibid for deaths occurring in the prison, and the general morgue known as the city morgue at the College of Medicine and Surgery Building.

The military government operates a large morgue with embalming facilities for those who die while connected with the Army.

UNIFORMITY IN VITAL STATISTICS.

The trend of concerted effort on the part of health officers is more toward securing uniformity in vital statistics than in any other single direction, as it is realized that the reliability of the deductions drawn from such statistics depends upon their uniformity and accuracy.

Statistical information with regard to deaths being the most readily secured, though not always the most correct, was made the basis of a general effort to bring about a new and better procedure in the line of vital or health data.

As late as 1893 no two countries in the world used the same methods in making a statistical classification of the causes of deaths. This want of uniformity precluded the comparison of the results of classification and thus rendered valueless one of the principal assets of sanitary science. At the session of the International Statistical Institute held during the World's Fair at Chicago in 1893, Dr. Jacques Bertillon presented, on behalf of a special committee appointed to prepare it, a draft of a classification of the causes of deaths for international use. This draft was promptly adopted by several countries and practically accepted by the United States when recommended by the American Public Health Association by resolution passed at the Ottawa session in 1898. This resolution also suggested the propriety of a decennial revision by an international commission appointed by the various countries employing the system. The first session of this commission met in the year 1900 at Paris and prepared the revision used by this Bureau until the new revision of 1910 was authorized by the commission, which again met last year in Paris, as guests of the Government of France. Doctor Bertillon is the permanent secretary-general. All the English-speaking and Spanish-speaking countries of the world have adopted this system.

The Philippines were among the first to adopt the international classification of causes of death, and the same has been in use for ten years. Last year the international classification of diseases was adopted and its use is now compulsory in all Bureau of Health hospitals.

The international list of causes of death is a practical working list whereby compilers of statistics can assign medical terms reported by physicians as causes of death to certain more or less definite titles representing individual diseases or groups of diseases of similar character.

A process of condensation or consolidation is necessary in compiling statistics of causes of deaths for the reason that the number of medical terms employed by physicians is so very large that a table prepared on their cases would be simply a list of names of diseases and so long as to exclude the presentation of any statistical relations or information, hence the actual number of deaths from a given cause could be ascertained only by examining the entire list of terms employed.

Satisfactory statistics of causes of deaths can be obtained only by interested coöperation between physicians and registration authorities.

The past twenty years have witnessed the successful accomplishment of what seemed a hopeless task and established the basis for a most hopeful outlook for the future along these lines.

THE IWAHIG PENAL COLONY.

An inspection made during the early part of the fiscal year showed that the sanitary and hygienic conditions at the Iwahig penal colony were not satisfactory. More malaria prevailed than appeared necessary. Mosquitoes were breeding in many places in which their breeding could have been prevented; a sufficient number of mosquito nets had not been issued to supply all of the colonists; equipment at the hospital was poor; oil was not available in sufficient quantities for antimosquito work; and there were many other shortcomings. Representations were immediately made to the Governor-General and to the Secretary of the Interior, which resulted in the correction of many of the evils, and as a consequence, a greatly decreased sick and death report.

With the view of reducing the number of cases of tuberculosis at Bilibid, a recommendation has been made to open a large tubercular hospital as a division of the Iwahig penal colony, and transfer thereto all cases of tuberculosis from Bilibid. Tubercular prisoners at Iwahig would be under much better hygienic conditions and those who recovered could be given open-air employment which would at least give them a chance to remain well instead of relapsing as is so frequently the case with those who are discharged from the tubercular hospital at Bilibid to live again in the necessarily cramped quarters with the remaining prisoners and endanger them as well.

METHOD FOR MAKING MANURE SAFE AGAINST FLY BREEDING WITHOUT DESTROYING ITS FERTILIZING PROPERTIES.

One of the most desirable movements in recent years has been the attempt to beautify the city of Manila as well as many provincial towns by the planting of trees, shrubs, flowers, grass, etc., but unfortunately this work has been seriously interfered with because it was found that the manure which was so desirable for fertilizing purposes was also responsible for the breeding of enormous numbers of flies and therefore its use had to be forbidden. Experiments made by treating manure with petroleum, carbolic acid, and similar substances to kill the fly larvæ were successful in so far as the destruction of the larvæ were concerned; but the treatment apparently interfered with the fertilizing properties of the manure.

During the past year Dr. Frank W. Vincent, of the Baguio Hospital Division of the Bureau of Health, and Mr. J. O. Wagner, a resident of Baguio, conducted a series of experiments as a result of which manure was made safe against the breeding of flies, and still retained its fertilizing properties. Briefly, this method consists in placing the manure in an impervious receptacle with a reasonably tight-fitting cover, and then adding water until the manure becomes completely immersed. An ordinary kerosene tin or other similar receptacle may be used, and a board weighted with stones used as a cover. It is imperative that sufficient water be added to cover the manure; in other words, the manure must not be allowed to float on top of the water; it must be kept under the surface of the water. A few drops of kerosene are then added to prevent mosquito breeding, and the manure is allowed to stand for from five to ten days, after which it is deposited on the place to be fertilized and immediately covered with earth to the depth of several inches. It is essential to cover the manure with earth, because it has been found that if it is left exposed, flies may lay their eggs in the manure and in due course of time the young flies would be hatched.

The object of soaking the manure in water is to kill the fly eggs and larvæ that may have been deposited in it before it has been available for treatment. A number of experiments made show that if this treated manure is placed in a can covered with a screen top, no flies develop; whereas, a can of untreated manure, covered with a screen and used as a control, almost invariably shows the presence of flies within a period of twelve days.

During the year the method has been successfully used at a number of places in Baguio. One of the difficulties has been that in leaving the matter to servants, they become careless and do not carry out the method faithfully, and fly breeding results. It is also essential that the container in which the manure is treated be impervious—in other words, a pit or hole in the ground would not do, because the larvæ of the flies might crawl into the ground and thus defeat the object of the treatment.

ALBINISM.

Since the report on this disease, which was published in the annual report of the Bureau of Health for the fiscal year ended June 30, 1909, a further inquiry has been made by District Health Officer Villafranca and he has succeeded in finding 197 additional cases. It is hoped that an article covering his cases will soon be published in the Philippine Journal of Science.

AMŒBIC DYSENTERY.

The work which has been going on for the past few years at the Bureau of Science which, among other things, had for its object the definite settling of the problem as to whether all amœbæ found in drinking water and other places in the Philippines were pathogenic is now nearing completion. Dr. E. L. Walker, the acting chief of the biological laboratory, reports that it is possible to distinguish between pathogenic and nonpathogenic amœbæ and that the ordinary water amœba found in the Philippines is harmless to man. This is largely in accord with similar experience had in Panama and other tropical countries and is of far-reaching importance from a public health standpoint. In many sections where it is not possible to obtain artesian well water or where it is impracticable to sterilize the water or otherwise make it safe, there are waters which show a good chemical analysis and biologically are reasonably good, the only objection being that they contain amœbæ. It will now be possible to recommend the use of such water and thereby quickly provide a better water supply for many towns.

In general, however, the later data with regard to amœbæ calls for very little change in the prophylactic rules to be observed in avoiding the contraction of amœbic dysentery. Briefly, in order to avoid contracting this disease the only safe course to pursue is to use only water that has been either boiled, distilled, or otherwise made safe; not to use low-growing garden vegetables in a raw state; and to insist upon cleanliness of the hands of those who are engaged in the preparation of food. For instance, a servant who suffers from amœbic dysentery could readily contaminate the food which he prepares unless scrupulous cleanliness of the hands is observed.

It should always be borne in mind that amœbic dysentery is one of the greatest obstructions that has heretofore stood in the path of the white man in successfully colonizing the Tropics, but by the observance of the simple rules mentioned above the disease may be avoided.

A review of the enormous amount of work done in connection with amœbic dysentery does not support the belief that the native dweller of the Tropics is any more immune to amœbic dysentery than the white man of the Temperate Zone.

BACILLARY DYSENTERY.

This year one of the severest outbreaks of bacillary dysentery of which there is any record occurred in the Philippine Islands, especially during the months of July, August, and the first half of September. Practically every province was affected, and the number of deaths reached many hundreds. Printed circulars with regard to the method by which the disease might be avoided, were promptly forwarded to the district health officers with instructions to have their contents made known to the public. It is satisfactory to report that wherever these instructions were carried into effect an immediate reduction in the number of cases took place. Most noteworthy results were obtained by Dr. Arlington Pond in the Province of Cebu. He was greatly aided by graduate nurses from the Philippine Training School for Nurses. These women lectured in the native tongue to the people of the stricken districts, and went into their houses and taught them by practical demonstration how the disease might be avoided. Excellent results were also obtained by Doctor Villafranca in Bohol, and equally good work was accomplished in Pampanga and Bulacan under the guidance of a medical inspector who was sent from this Bureau. Briefly, it may be stated that the disease was effectually controlled by the Bureau in direct proportion as funds were available for the employment of skilled personnel. There is small doubt that had it been possible for many of the provinces to employ a number of recently graduated nurses to work under skilled medical supervision, a larger number of lives might have been saved. From a scientific standpoint, it is interesting to note that wherever sanitary measures were actively carried out, the disease disappeared in, comparatively, a few days, and in communities in which adequate sanitary or hygienic measures were not possible, it usually disappeared in from eight to ten weeks. The figures for the mortality of the disease in the provinces are not available, but those cases treated in the hospitals show that the average mortality was approximately 15 per cent.

The following circular was issued with regard to this disease:

> Attention is called to the fact that on account of the large number of cases of bacillary dysentery which are being reported from different parts of the Islands, it is necessary for district health officers to take active measures to stamp out this disease.
>
> It is pointed out that the organism producing bacillary dysentery, as in cholera and typhoid fever, gains entrance to the body by way of the mouth only and lives and grows in the intestines, the dysentery stools being the primary cause of the dissemination of the infection. It is therefore clear that this disease may be spread by dirty fingers, contaminated food and drink, and flies. In brief, it is very desirable in treating an outbreak of bacillary dysentery to disinfect the stools from all patients; to keep the hands of patients and contacts absolutely clean; to prevent unnecessary handling of food and to protect it from flies; and to prevent the breeding of flies.
>
> Special attention is called to Cholera Circular No. 1, which can be applied in the case of bacillary dysentery; and to Article XXVI, Bureau of Health Manual, paragraphs 680, 701, 710, 711, 712, 713, 714, 718, and 720 to 736, inclusive.
>
> It is specially pointed out that there may be carriers of the dysentery bacillus just as there are carriers of typhoid fever and cholera.
>
> In order to learn accurately of the prevalence of the disease, it is desired that specimens be forward to the Bureau of Health for bacteriological examination.
>
> These specimens should consist of a few cubic centimeters of the bloody portion of the stool and, if possible, some shreds of mucus. Place the material in a small vial and send in a mailing tube, with a brief history of the case.

BALENTIDIUM COLI DYSENTERY.

The records of the Philippine General Hospital shows that there were treated at that institution eleven cases of balentidium coli dysentery, of which none died. In the regular stool examinations which are made at quarantine of persons arriving from foreign countries a case of balentidium coli dysentery was also found, so that it would appear likely that this disease is also introduced from time to time into the Philippines from China.

BERIBERI AND HOW TO PREVENT IT.

(Bureau of Health Bulletin No. 12.)

Beriberi is a disease that has been responsible for the deaths of thousands of persons annually throughout the Orient, besides the making of chronic invalids of many more thousands, and the incapacitating for gainful occupations of even greater numbers. It has been the general experience that beriberi affected particularly the strong, for which reason the harm done to the community was doubly great, because it attacked its earning capacity in its most vital place.

Until very recently there was no satisfactory explanation as to the cause of the disease, but, fortunately, within the past few years much information has come to light, so that at present at least it is possible to prevent outbreaks and, if the disease has not advanced too far, to cure it in those who already have it.

In the Philippine Islands, for instance, it is estimated that there are at least 5,000 deaths annually due to beriberi, and it seems probable that subsequent investigations may show that the disease is intimately associated with the high infant mortality. If this should prove to be true, at least another 20,000 deaths may be charged against it. On account of its importance it may, therefore, not be amiss to give a brief description of the disease, the manner in which it is conveyed, and how it may be prevented.

DEFINITION OF BERIBERI.

Beriberi is a multiple neuritis and is characterized by motor and sensory paralysis and dropsy, which means that the disease is an inflammation of many nerves throughout the body and that inflammation causes a partial or complete loss of the use of the muscles supplied by such nerves. The sensory nerves, or nerves of feeling, show the effect of the inflammation by severe pain, and still there are other nerves which supply the blood vessels and govern nutrition, which manifest the disorder by permitting the vessels to leak and the fluid to collect in the tissues and by failing to repair the loss from the waste and thus cause great emaciation which is often not noticeable on account of the dropsical swelling of the body.

HISTORY.

The disease is believed to be of great antiquity in China. In the early years of the nineteenth century it attracted much attention among Anglo-Indian surgeons. The opening of Japan gave an opportunity to European physicians holding university positions to investigate the disease, and much information and many empirical rules for preventing it became available. The Japanese themselves studied the disease considerably during their two recent wars and used methods that assisted in the reduction of its ravages. In the war of 1894 between Japan and China nearly half the Japanese troops had beriberi, and in the war of 1904–5 there were 85,000 cases reported.

DISTRIBUTION IN THE PHILIPPINES.

The disease formerly prevailed most extensively in Government institutions, and particularly among sailors on ships, lighthouse keepers, soldiers, inmates of charitable institutions, and of leper colonies, in labor camps, and among Chinese laborers and artisans, and especially among prisoners in provincial jails.

CAUSE OF THE DISEASE.

In the past there have been many causes assigned for the disease, as, for instance, overcrowding and poor ventilation in ships, jails, asylums, etc.; that the disease was due to bacteria which grew on rice and perhaps left a toxin; and to many other causes; but lately almost conclusive evidence has been made available to show that the disease occurs in the Tropics almost exclusively among those who use white rice as a staple article of diet.

In experiments made by Fraser and Stanton in the Straits Settlements, by Aron in the Philippines, and others, it was shown, in the first place, that polyneuritis among chickens and beriberi in human beings are due to the same causes. In order to prove that polished rice is associated with beriberi, a series of chickens were placed in cages, numbered from 1 to 20, and then all the chickens in the odd-numbered cages were fed only on water and polished rice of the best grade, while all the chickens in the even-numbered cages were given only water and unpolished rice. In a few weeks the chickens in the odd-numbered cages showed unmistakable evidences of illness which proved to be polyneuritis, and when the use of polished rice was continued the chickens soon died. On the other hand, all of the chickens in the even-numbered cages that were fed unpolished rice remained perfectly well. The conditions of the experiment were then reversed. Those in the odd-numbered cages were given unpolished rice and those in the even-numbered cages polished rice. The chickens in the odd-numbered cages soon began to improve and in a short time were entirely well, while those that had heretofore remained well and were now using polished rice soon became ill in the same manner as the chickens that had previously been fed on polished rice.

Fletcher subsisted 123 inmates of the Kuala Lumpur Lunatic Asylum on polished rice and 123 on unpolished rice. Among the first group 43 cases of beriberi occurred and in the second group there were none. The two groups exchanged buildings, but no cases occurred among the unpolished rice group. They then exchanged their rice, the first group using unpolished and the second polished rice. No further cases occurred in the first group, but beriberi soon developed among the persons in the second group that were now using polished rice.

Later, a large number of men were sent to the interior of the Straits Settlements to build a railroad. One half of the men were subsisted on polished rice and the other half upon unpolished rice. It was soon found that those who lived on polished rice became ill with beriberi, while those who had unpolished rice showed no symptoms of this disease. In order to prove that the disease was not conveyed by infection the people who were eating the unpolished rice exchanged clothing and houses with those who were eating the polished rice, but they still remained well. Again the experiment was reversed and those who had been eating polished rice were given unpolished rice and *vice versa,* and in a short while those who were ill with beriberi began to improve and those who used polished-rice diet began to show symptoms of beriberi.

During the time that these experiments were being carried out in the Straits Settlements, similar experiences were had in the Philippine Islands. For instance, at the Culion Leper Colony beriberi had prevailed very extensively and was causing from 60 to 80 deaths a month. Instead of using polished rice, as had been done previously, unpolished rice exclusively was used, and in a short while the disease disappeared completely.

Among the Scouts of the United States Army similar results were obtained. Among these soldiers the disease had prevailed very extensively. In one year over 600 cases were reported. After the use of unpolished rice was begun the disease disappeared entirely, and there have been no further cases among these troops.

The Governor-General of the Philippine Islands then issued an executive order prohibiting the use of polished rice in all Government institutions; and wherever this was placed in effect the disease soon disappeared. It has been shown conclusively that the few isolated cases that have originated were due to the fact that the institution had not adhered strictly to the regulation with regard to the use of unpolished rice.

WHY DOES POLISHED RICE CAUSE BERIBERI IN SOME AND NOT IN OTHERS?

Upon further investigation it was found that the chemistry of the outside of the rice grain differed from that of the inside of the rice grain. In other words, when rice is polished the outer coating (pericarp) is removed. In speaking of rice, it should be remembered that we are now dealing with the grain after the hull has been removed, but even after this has occurred the rice grain is still similar to an orange or an apple; in other words, there still exists around its outer surface a coating or layer which corresponds to the peel of an orange or an apple, and in this outer coat or pericarp or peel there exist certain principles which are essential in order that rice may supply the proper nourishment for the human body. It will be apparent, then, that if this outer layer is polished away, the systems of persons, whose principal article of diet is rice, are being deprived of an essential substance. There is further evidence to show that this same substance that exists on the outside of the rice grain is also present in other foods, especially in beans, mongos, yeast, and probably in many other things, so that persons who live on a more or less diversified diet are seldom found to be afflicted with beriberi even if they do consume polished rice. This fact accords very closely with the distribution of the disease. It has been known for a great many years that Europeans seldom suffer from beriberi. It is now apparent that this is due to the fact that they live on a diversified diet. It may be of interest to mention that some years ago an American who became stranded at a lighthouse developed beriberi. On account of lack of other foods he was compelled to live almost entirely upon rice for a number of months.

The polishings or substance that is removed from the outside of the rice grain is known in many parts of the Philippines as tiquitiqui. It is also a well-known fact that it has long been the custom to feed tiquitiqui to chickens in order to fatten them rapidly. Science has now demonstrated that tiquitiqui is not only good for chickens but for human beings as well.

Beriberi occurs more frequently in tropical and subtropical countries, not because of any peculiarities of the climate, but because many of the residents use white rice as a staple article of diet.

HOW DOES BERIBERI AFFECT INFANTS?

It will naturally be asked, How can unpolished rice be responsible for deaths among infants who do not eat rice? Investigations have not gone sufficiently far to demonstrate conclusively that white rice is associated with the infant mortality; but there is considerable evidence to show that such is likely the case. For instance, over half the children born in the city of Manila die before they reach 1 year of age. This corresponds to the period of their lives when they are almost entirely dependent upon their mothers' milk for nourishment. Now, if the mother subsists almost entirely on white rice, she is deprived of an essential nutritive principle so that the milk which she yields must also be lacking in this principle, and the child she nourishes with her milk may develop beriberi. The disease supposed to be thus caused which is so frequently a factor in infant mortality is known in the Philippines as *taón.*

WHAT IS THE CAUSE OF TAON?

Many physicians believe that *taón* and infantile beriberi are the same disease. At all events, there is much evidence available to show that when a mother subsists upon unpolished rice the disease *taón* disappears in her infant, which in itself is an important discovery.

EXPERIENCE IN OTHER COUNTRIES.

Experiences in the Federated Malay States, Java, India, China, Hongkong, and other places coincide very closely with the experience in the Philippine Islands, namely, that where beriberi occurs it is intimately associated with the consumption of white rice as a staple article of diet, and that the disease can generally be eradicated either by the use of unpolished rice or a diversified diet, such as beans, peas, mongoes, meat in addition to the rice, etc.

HOW MAY BERIBERI BE PREVENTED?

From what has been said it is already apparent how the disease can be successfully prevented.

The result of the studies which have been made by medical men with regard to beriberi again shows in a most forcible manner the advantages of modern science. Here is a disease that for years and years has defied all efforts at eradication or successful treatment, now yielding to a remedy as simple as proper diet or merely the use of unpolished rice.

The application of this knowledge, however, is not such a simple matter. Considerable difficulty has already been encountered in the attempt to administer the remedy. For instance, in Government institutions, when unpolished rice was furnished, ignorant individuals thought that the Government was attempting to substitute a cheap form of rice for the polished kind that had been in use heretofore, and in many instances they refused to eat it. In order to dispel such ignorance, it is most desirable that all intelligent persons assist in the dissemination of the knowledge that beriberi is caused by consuming as a staple article of diet white rice, and that it may be prevented by the use of unpolished rice. Many persons are of the opinion that white rice is more appetizing than the unpolished rice, which is naturaly darker; but those who have given the matter a fair trial are almost invariably of the opinion that the unpolished rice has a better and richer flavor than the white rice and that the white rice has only been preferred heretofore because it became the custom to eat it. Those to whom this knowledge has come may assist very much in the eradication of beriberi in the Philippine Islands by setting an example by using unpolished rice. Even those whose diet is sufficiently diversified to provide them with the essential elements of nutrition should assist in this movement by using unpolished rice, in order to set an example to those who are not so favorably situated as to be able to have a proper diet.

This terrible disease may be entirely prevented in the Philippine Islands without increasing the cost of living. By simply substituting unpolished rice for white rice, there is every reason to believe that its complete disappearance can be effected.

It has been suggested lately that in order to hasten the general use of unpolished rice a tax of 4 centavos a kilo be placed upon polished rice and that unpolished rice be admitted duty free. This would accomplish the purpose by making polished rice too expensive for general use, thus limiting its sale to the rich, who could protect themselves by a diversified diet, thus bringing about the desired result indirectly.

Rice which is hulled by hand in the Philippines is practically always a safe rice to use, so that it is only the machine-milled rice of extreme whiteness that is dangerous when used as a staple article of diet.

The people of the Philippines have it within easy grasp to eradicate this disease from the Islands and at the same time they can set an example for the remainder of the Orient that might result in the saving of thousands of lives in those countries.

CHOLERA.

This is the first opportunity that has presented itself in many years to state that, so far as is known, not a single case of cholera occurred anywhere in the Philippine Islands. It has long been questioned whether the frequent outbreaks of cholera which have occurred in the Philippine Islands in the past have always been due to infections which originated in the country. Since 1908, when the first cholera carriers were definitely proven to exist in Manila, it has been suspected that possibly some cholera carriers were introduced from near-by foreign countries. On account of the seven-day plague quarantine which was imposed against all steerage passengers arriving from Amoy and Hongkong, an excellent opportunity was afforded, while this detention was taking place at the Mariveles quarantine station, to have the stools of such passengers examined. On account of the infrequency with which cholera occurs among Chinamen, it was not thought likely that persons of this nationality would be found to be cholera carriers, so that it was all the more interesting to detect the first case in this race. This Chinaman had left Canton, China, seven days previously and, so far as could be ascertained, he was in good health. He was kept under observation for a period of ten days, at the end of which period his stools were found to be negative. A number of other steerage passengers were found to harbor vibrios which gave the preliminary tests for cholera, but upon more complete laboratory examinations being made they were found not to be the vibrios of Koch.

A most virulent outbreak of cholera took place during the year in Shanghai and in Japan, and, owing to the close communication which exists between these places and the Philippines, many vessels reaching here under five days, it will be apparent that these outbreaks were a considerable source of danger to the Philippines. No quarantine, however, was imposed. Complete reliance was placed upon examination of the stools.

DIPHTHERIA.

More cases of diphtheria came under observation than has been the case in former years. It is difficult to state whether diphtheria is actually increasing or whether the time which has become available by not having to deal with the more spectacular diseases like cholera and smallpox has made it possible to detect cases which perhaps heretofore might have gone undetected. Considerable complaint and newspaper criticism were encountered during the year on account of the policy of the Bureau of isolating all persons who were found to be harboring the diphtheria bacillus in their throats, even though they presented no other symptoms of the disease.

For the treatment of bacilli carriers the staphylococcus spray was tried, but the results were no better than those obtained from the ordinary antiseptic sprays and gargles. The following table shows the average number of cases, by months, for four years previous, including the number of cases during the current year:

Cases of diphtheria in Manila.

Months.	1909	1910	1911	1912	1913
January	......	12	4	5	3
February	1	3	1	7	2
March	......	2	4	16	3
April	......	2	13	6	4
May	......	4	5	4	1
June	......	......	......	4	2
July	2	1	4	3	......
August	1	2	2	2	......
September	1	2	2	7	......
October	......	2	4	1	......
November	1	1	10	7	......
December	1	3	9	......	......
Total	7	34	58	62	15

GOITER.

In the last annual report mention was made of the fact that at Peñaranda, Nueva Ecija Province, among a population of 8,410, there had been found 43 cases of goiter and that the water supply was under suspicion. District Health Officer Fernandez was instructed to make a careful investigation of this matter and, if possible, to make some experiments along the lines of those made by Dr. Robert McCarrison and reported in a recent number of London Lancet. Doctor Fernandez has made a preliminary report, in which he states that the use of artesian well water has now become quite general in Peñaranda and that he has been unable to find any new cases of goiter during the past year.

INSANITY.

The statistical reports show that during the last fiscal year there were 3,376 insane persons in the Philippine Islands. According to the census returns of the United States there is 1 insane person for every 304 of the population, whereas in the Philippines there is 1 for every 1,964 of the population. This indicates that, apparently at least, insanity is six times as prevalent in the United States as in the Philippine Islands. It is fortunate that comparatively the number of insane in the Philippines is small, for there is provision here for the hospitalization of only 600 persons approximately and this includes both private and Government institutions. This means that the vast majority must either be cared for in the homes of their families or in provincial or municipal jails, where there are no facilities for giving them proper treatment.

During the past few years the practice of sending insane to

Manila and abandoning them in the offices of the Bureau of Health has become more and more common; and as the appropriation of the Bureau for the care of the insane is more than exhausted by the number that are already in its care, it will be obvious that it is urgently necessary that something be done to relieve this sad condition of affairs.

Lately the provincial board of Batangas has fitted up an unused portion of the provincial jail as a temporary insane hospital. Such action is to be commended as being better than nothing, but at best arrangements of this kind can only be regarded as a makeshift and definite steps should be taken for the erection of a large insane hospital where proper medical care may be given to these unfortunates.

The following table shows the distribution of the insane by provinces:

Reports of insane persons in the Philippine Islands.

Provinces.	Races.	Males.	Females.	Children.		Single.		Married.		Widowed.		Total.
				Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
Abra	Filipino	29	25	1	2	19	8	7	11	2	4	54
Agusan	do	7	6			5	3	2	3			13
Albay	do	47	47			36	28	9	10	2	9	94
Ambos Camarines	do	46	56	2	1	37	33	4	12	3	10	102
Antique	do	62	37			40	18	18	13	4	6	99
Bataan	do	19	15			11	6	5	4	3	5	34
Batanes	do	18	7			17	6	1			1	25
Batangas	do	62	52	2		36	29	19	11	5	12	114
Bohol	do	208	169	3		162	141	35	23	8	5	377
Bulacan	do	41	29		1	27	13	8	9	6	6	70
Cagayan	do	17	15			8	5	5	9	4	1	32
Capiz	do	72	64	3		36	29	25	18	8	17	136
Cavite	do	38	39			25	14	6	16	7	9	77
Cebu	do	211	132	1		176	107	28	19	6	6	343
Hospicio de San José	(a)	46	35									81
Ilocos Norte	Filipino	74	30		1	60	16	13	8	1	5	104
Ilocos Sur	do	99	60	1	2	69	32	21	18	8	8	159
Iloilo	do	73	63	1		58	40	11	14	3	9	136
Isabela	do	7	6			1	4	6	1		1	13
Laguna	do	31	34		1	21	10	8	12	2	11	65
Leyte	do	45	36	1		38	22	6	7		7	81
Misamis	do	62	37	2	1	46	28	9	6	5	2	99
Nueva Ecija	do	29	23			24	12	4	8	1	3	52
Nueva Vizcaya	do	12	10		2	8	5	3	1	1	2	22
Occidental Negros	do	48	28	4	1	32	14	7	5	5	8	76
Oriental Negros	do	105	57		2	81	41	17	9	7	5	162
Pampanga	do	23	30			14	10	6	11	3	9	53
Pangasinan	do	120	81		2	62	36	45	28	13	15	201
Rizal	do	40	25			28	14	7	7	5	4	65
Romblon	do	13	5			4	2	7	2	2	1	18
Samar	do	47	26	1	1	36	15	9	8	1	2	73
San Lazaro Hospital	(b)	230	67		1	114	29	96	27	20	10	297
Surigao	Filipino	11	2			6		3	2	2		13
Tarlac	do	3	3			1	3	2				6
Tayabas	do	113	89	3	2	93	60	11	21	6	6	202
Union	do	36	35	1	1	17	26	14	5	4	3	71
Zambales	do	16	22	2		10	10	4	7		5	38
Total		2,160	1,497	28	21	1,458	869	481	365	147	207	3,657

[a] Europeans, 8; Filipinos, 73; total, 81.

[b] Americans, 4; Europeans, 8; Filipinos, 284; Chinese, 4; others, 2; total, 297.

LEPROSY.

Since the work of isolating lepers in the Philippine Islands was begun in a systematic manner in 1906, there have been 7,546 collected up to the close of the present fiscal year. During the present year there were 848 lepers collected. As the work goes on there is even less friction than there was in the beginning. In fact, many cases now come forward voluntarily and ask to be transferred to the Culion leper colony. The cheerful manner in which the great majority of the lepers have acquiesced in their transfer to Culion has been one of the most satisfactory evidences of how well a public-health measure may be carried out when it is supported by public opinion and is done in a manner which shows due regard for the rights of the individual. The better police service that exists now in many of the provinces has brought forth many lepers, the presence of which was not heretofore suspected. This year many lepers have again escaped from the municipal police while they were awaiting transfer to Culion. In view of the foregoing it is apparent that there are still many centers of infection in actual existence, so that the rapid diminution of the number of cases of leprosy that was so confidently expected a few years ago cannot at present be looked for.

As has been reported previously, Cebu, in spite of the fact that it has only about one-tenth of the population of the Philippines, still continues to furnish fully one-half of the number of lepers. Inquiry made recently by District Health Officer Pond shows that this may have been due to the fact that a leper hospital was established in Cebu in 1816 and lepers from all the Visayas were sent to it for care. There was, however, no effective guard maintained and it frequently happened that whole parties of lepers left the hospital at one time and settled down in nearby towns. For instance, Opon, where so many lepers have been collected, in all probability was one of the points to which lepers fled. The barrio of Cordoba, which, although it has a population of only a little more than 5,000, has furnished more than 275 lepers, seems to confirm this surmise. The large number of lepers found there may have been due to constant intermarrying. The foregoing may account in a way for the greater incidence of leprosy on the island of Cebu than is the case elsewhere. This is, however, offset in part by the fact that probably similar occurrences took place as regards the leper colonies that were established at Palestina in Ambos Camarines and at the San Lazaro Hospital in Manila.

During the year much has been done to alleviate the lonesomeness and monotony of life at Culion. During the Christmas holidays the Secretary of the Interior and the Director of Health took to Culion a moving picture machine and gave the lepers an evening's entertainment. From the funds so kindly donated by the Manila public a number of musical instruments have been purchased to replace those worn out; baseball equipment has been secured; games have been purchased, etc. There is now nearing completion a large theater building where it is proposed to give phonograph entertainments as well as moving picture shows from time to time.

The construction of reinforced concrete houses at Culion has been steadily continued and beautification of the surroundings has been actively begun. A large coöperative store is shortly to be started at Culion which will have its own currency and will be operated entirely with leper employees. It is proposed at this store to purchase anything which a leper may produce and which the colony may be able to use, and in turn to sell the lepers such little necessities and comforts at a reasonable cost as they may desire to purchase. It is hoped that in this way it will be possible to stimulate the lepers toward doing something to maintain themselves. It is not believed that compulsory labor, even though only exacted from those who are physically fit, would ever give very satisfactory results, because after all a leper is a sick person, suffers much of the time from a fever, and would not be inclined to do any work under compulsion.

The self-sacrificing work done by the sisters of the St. Paul de Chartres order still continues to make the life of the ordinary leper much more bearable. To give an idea of the large amount of work done, it need only be said that at the out-patient service the sisters dress over 400 lepers' wounds every morning.

TREATMENT OF LEPROSY.

The Bureau still continues the policy of trying any remedy which anyone may suggest for the treatment of leprosy which gives any hope of affording relief. A treatment which has given much hope during the past few years is described more or less in detail by the history of the two following cases that have been negative for leprosy for more than a period of two years and have been released on probation.

On June 11 there were released from San Lazaro Hospital two persons who were formerly afflicted with leprosy and have now been pronounced free from the disease.

C. A., male, Filipino, age 27, admitted to the San Lazaro Leper Hospital May 29, 1909. On admission the case presented thickened reddish spots on the nose and thickening and discoloration of the lobe of the right ear. Smears made from the lesions were positive for leprosy bacilli. Beginning August, 1909, he received vaccine treatment at intervals for one year, but apparently there was no change in his condition during this period. From September, 1910, to November, 1910, he took crude chaulmoogra oil by mouth, beginning with daily 15-drop doses and by November reaching 60 drops per day. The oil was given three times daily in divided doses. Beginning in November he received hypodermic injections of the following prescription of Dr. Mercado, house physician at San Lazaro Hospital:

Chaulmoogra oil	60 cc.
Camphorated oil	60 cc.
Resorcin	4 grams.

Mix and dissolve with the aid of heat on a water bath, and then filter.

The foregoing mixture was given as follows: During November, 2 c. c. every 3 days; during December, 5 c. c. every 8 days; during January, 10 c. c. every 8 days.

As this large dose was being borne badly it was reduced to 5 c. c., which amount was injected every eight days from February to May. There was apparently no change in his condition at the end of the year following the vaccine treatment. During the treatment with crude chaulmoogra oil by mouth there was some improvement in his condition. This improvement continued during the time that hypodermic injections were given, and on May 6, 1911, all the lesions above described had disappeared and it was impossible to demonstrate the leprosy bacillus. All treatment was then discontinued for a period of one year, during which time he remained negative microscopically. From August, 1912, to June, 1913, 2 c. c. were given every ten or thirteen days until the time of discharge.

The second case was that of C. A., a Filipina woman, age 22, admitted to the San Lazaro Leper Hospital on January 7, 1910. She had a generally suffused countenance and small red macules on the cheeks, forehead, and chin. Scrapings from these lesions were positive for leprosy bacilli. Vaccine treatment was begun January 15 and continued for a period of five months. At the end of the first month there was apparently no improvement in her condition, and crude chaulmoogra oil was given by mouth in ascending doses. The initial dose was 30 drops per day and had reached 300 drops at the end of four months. At the close of this period there was some apparent improvement, but the oil was no longer borne well, and the chaulmoogra-oil mixture mentioned in the previous case was administered. For the first month 1 c. c. was injected into the buttocks every eight days.

The next month 10 c. c. was injected every four days. Then one dose of 15 c. c. was given. After that 5 c. c. was injected every six days. By May 6, 1911, there was great improvement in her general appearance and she was microscopically negative for leprosy. During September, 1911, all treatment was discontinued for nine months. Beginning in June, 1912, 2 c. c. was injected every eight days. Microscopical examinations were made at frequent intervals but always with negative results. On June 11, 1913, the date of her discharge, all macules had disappeared but there was still some suffusion of the countenance.

It is not known whether the vaccine treatment had any influence in these cures. It may be said, however, that there are a number of other cases at San Lazaro Leper Hospital and at the Culion leper colony that have been negative for nearly two years which presented more marked lesions than those already discharged, and yet they received only chaulmoogra oil, no vaccine being employed.

Apparent cures have been reported from time to time in the past from San Lazaro Hospital, but unfortunately all of them relapsed or died from some intercurrent disease soon after a period of one year. The cases now reported have been negative for a period of two years and there seems to be ground for hope that the results may be more permanent.

As soon as the definite results became generally known among the lepers there was a great demand to take similar treatment and many hundreds are now taking chaulmoogra oil in some form or other.

Owing to the long period over which the oil must be taken and the nauseating effect when given by mouth, experience has shown that few have the hardihood to take the treatment faithfully over a prolonged period.

Up to the present time the results have not been such as to warrant the belief that a specific for leprosy has been found, but it is thought that if adequate funds were available for the opening of a laboratory for the study of this leprosy treatment and an attached hospital provided for making accurate observations, that at least a way has been indicated which might eventually lead to success. In order that too great hopes may not be aroused by the present cures, it should be remembered that in the experience of the Bureau one leper has apparently recovered spontaneously—that is, without any treatment being administered, and that for a period of over a year now there have been 20 patients placed under the treatment mentioned above, but only a few of them have shown any signs of improvment.

MALARIAL FEVER.

A study of the statistics for malarial fever in the Philippines shows that in round numbers there have been reported approximately 25,000 deaths annually from this disease. It should be remembered, of course, that in the provinces many of the diagnoses are not made by physicians and it is likely that many deaths attributed to malarial fever were perhaps due to other causes; but these erroneous diagnoses are perhaps in part counterbalanced by many persons who die of malaria in whom the cause of death is attributed to some other disease, so that 25,000 deaths per year is probably not an overestimate. It is believed that the time has now come when more active steps should be taken to combat this preventable disease.

The importance of malarial fever is now being brought to the attention of the Bureau of Health more frequently by the development of commercial enterprises in various portions of the Islands. For instance, it was previously reported that the work of the San Jose Sugar Estates was seriously interrupted by these severe outbreaks of malarial fever. This year the sugar estate in Dinalupihan in Bataan Province encountered similar difficulties. The irrigation project in Tarlac was seriously affected by an outbreak of malarial fever. Proper sanitary measures were recommended and soon resulted in a great reduction in the number of cases. These outbreaks are not only serious from the standpoint of those who are financially interested in the success of a given enterprise, but they are of greater importance to the public, because the laborers on projects of this kind, upon becoming ill, return to their homes, and thus many new places in the Philippine Islands soon become centers of infection for malarial fever that were heretofore free from the disease.

In the last annual report mention was made of the fact that a reduction in malarial fever had been brought about in Ambos Camarines Province by the free distribution of enormous amounts of quinine. It is obvious, of course, that perhaps much quinine may have been distributed among persons who would be able to pay for it if it were only available. Drug stores or other places where quinine might be purchased are very few in the provinces. It is also well known that in many sections of the Philippines private dealers charge enormous prices for quinine pills, it not being an infrequent occurrence for some dealers to sell pills at the rate of a peseta apiece. With the very low earning power that exists in many sections, it is obvious that some people would not be able to purchase many pills at this rate.

It is proposed during the coming year, in addition to instructing the people by literature and illustrated lectures as to the manner of spread of malarial fever and how it may be avoided by mosquito measures, draining, and quinine prophylaxis, to make arrangements for the sale of quinine in even the most remote regions at practically the cost to the Government. It is believed that this could perhaps be best accomplished by placing quinine on sale at all post offices and, in addition, to make free quinine available for those who are unable to pay for the same. It is thought that by means of the schools, and by general concentrated effort on the part of the various agencies at the disposal of the Government, it should be possible to make a decided reduction in the number of deaths from this disease.

It is also noteworthy that during the year a number of cases of malaria occurred in Manila which could be definitely said to have originated here. Extensive investigation, however, has shown that malaria originates in Manila at very infrequent intervals. The *Anopheles* mosquito is very rare, but a few have been observed, so that in order to account for the Manila cases it will not be necessary to fall back on the *Myzomyia ludlowi*, which has heretofore been suspected by some observers as being concerned in the transmission of malaria in the Philippines.

REMEDIES FOR MALARIA OTHER THAN QUININE.

Dita bark.—In view of the prevalent belief among Filipinos that decoctions of dita bark are of value in the treatment of malarial fever, various recommended preparations of this bark were made, but all of them proved to be of little or no value and should never be considered whenever quinine is available.

Ginger root.—It was customary before American occupation to prescribe ginger root for the prophylaxis and treatment of malarial fever, but an extensive number of experiments made with this substance show it to be of no value.

MEASLES.

The outbreak of measles, of which mention was made in the last annual report, particularly of the fact that it was probably introduced from the outside and from foreign countries, continued to spread throughout the Philippine Islands, and during the year 22 deaths were reported from measles in Manila and 1,915 in the provinces. A number of conferences were held with the officials of the United States Army with the view of adopting measures which would prevent the introduction of measles by Army transports from the United States. These resulted in the following set of regulations being adopted:

(1) The military authorities continue to exercise all the care heretofore exercised to prevent the spread of the disease.

(2) That in the fullness of precaution, each infected man's locker and his clothing in use be disinfected on the transport as soon as the diagnosis is made.

(3) That all personnel infected be sent to hospitals and suspects be kept under observation of medical officer, in hospital if necessary, if belonging or attached to the military service, while civilians infected or exposed be notified to the Bureau of Health and placed under its control.

The modern views with regard to the period of infectivity of measles, as shown by the work of Anderson and Goldberger, are being given a practical test in dealing with measles cases in Manila. In a girls' dormitory in which there were quartered 20 girls, none of whom had had a previous attack of measles, there appeared a typical case in a girl who had been outside the dormitory for a number of weeks, and who returned to the dormitory three days after the rash had made its appearance. For a period of thirty-six hours she came into intimate contact with the remaining girls, but as she was considered to be no longer infective she was simply transferred to an isolation hospital and none of the contacts were quarantined. They were permitted to attend school with several hundred other girls, many of whom had not had the disease. Disinfection of the premises was carried out. No further cases occurred.

PELLAGRA.

Although the Bureau of Health and the Bureau of Science have been on the lookout for pellagra since the report of a suspicious case in Cagayan Province by Doctor Willets a few years ago, no further reports have been received, which leads to the conclusion that if the disease exists here at all it is exceedingly rare.

PLAGUE AND PLAGUE SUPPRESSIVE MEASURES IN MANILA.

From the report of Dr. Thomas W. Jackson, medical inspector in charge of plague suppression, the following abstract is taken:

The chronologic facts concerning the development and extension of plague in Manila in 1912–13 are as follows:

As recorded in the annual report of the Director of Health for the fiscal year ended June 30, 1912, the disease made its reappearance in Manila after an absence of six years for the human disease and five years for rodent plague, two verified human cases having been recorded in June, 1912.

Although the number of cases of human plague now totals 67—57 fatal cases and 10 recoveries—and the number of cases of animal plague numbers 36, the progress of the disease since its reappearance has not been an uninterrupted or unobstructed one by any means.

On the contrary, such extension as has occurred has been made in spite of the most serious and active suppressive effort and it is believed that this effort has brought about a creditable result, as indicated by the records accompanying this report.

When one considers the favorable conditions for the natural spread of plague, both in Manila and throughout the Philippine Islands, and realizes the interposing difficulties and obstructions—natural and unnatural, geographical, human, and domestic—which confront us at every turn of the path to correction, removal, and reformation, our success in checking the spread and extension of plague appears real, especially when contrasted with the results of effort in other tropical countries during similar periods of time.

The first case of plague (June 12, 1912) occurred in a resident of Tondo, 920 Calle Antonio Rivera, and in the light of subsequent developments it may, perhaps, be grouped with the October cases traced to the Manila Railway property. The connection, however, is not clear and, on the other hand, it is not wholly inconceivable that the rat epidemic and human-plague cases at the railway station in October may have been secondary to this July case. Such speculation is fruitless, however, so far as establishing facts is concerned.

The second case of human plague occurred thirteen days later, July 25, in a resident of a district somewhat removed from the first case but in the same general section of the city.

Then came a lull of more than a month, until August 4, during which time no case of plague occurred.

August brought forth five cases on the 4th, 8th, 15th, and 21st days of the month, in residents of the Quiapo and Binondo districts.

These cases were unrelated to the preceding ones so far as could be ascertained.

Another lull of a month, until September 24, now occurred without a reported case of human plague. During this time, however, the first cases of rat plague were discovered, one on August 30 and two on September 6, all of them in the Quiapo district.

From this time (September 24) on, however, human cases occurred at intervals of a few days until Christmas Day, 1912, the longest plague-free period being one week, the number of cases by calendar months being distributed as follows: September, 3 cases; October, 22 cases; November, 12 cases; and December, 6 cases.

Not until October 21 was there any apparent geographic grouping of cases indicating a well-localized infected center. Upon this date there began the outbreak of plague among the employees of the Manila Railway Company—laborers at the freight station and yard of the company. This freight station and yard is located between Calle Azcarraga, Calle Dagupan, and Calle Antonio Rivera. The outbreak totaled 17 human cases, all fatal, and extended into November. Indeed, the last case traced to this focus occurred on December 7.

During the present epidemic of plague in Manila, this focus was the only one to which a larger number of cases than five could be traced and in all the other instances where multiple cases were traced to an infected center the foci were all single buildings.

The locations giving rise to multiple infections and the number of cases of plague developing at each address, with months of incidence, are as follows:

	Cases.
Calle San Fernando (804–814), November, 1912	4
Calle Cabildo, Intramuros, November and December, 1912	2
Calle Comercio (1028), February, 1913	2
Calle Sande (1364), April, 1913	5
Calle Juan Luna (1226), May, 1913	2

Returning to the Manila Railway outbreak; it is necessary to state that a well-defined epidemic among rats preceded this outbreak, resulting in the death of a large number of rodents. This epidemic was not reported by the railroad company until the outbreak of human plague had begun. It was then too late to identify plague in the dead and mummified rats found under floors, platforms, and elsewhere, but the fact that large numbers of rats had recently died here was established by the unanimous testimony of the employees at the freight station and the finding of rat cadavers.

As stated, the human outbreak here occurred upon October 21 and 15 cases developed within three days.

This indicates an extensive desertion of fleas from plague rat cadavers and an attack upon human beings after a fasting period on the part of the fleas of several days. The human outbreak at the station and the death of a large number of rats at the same place just previously, correspond exactly and established to a certainty the connection necessary to explain the epidemic.

After the railway epidemic of human plague, cases continued to occur through November and December without apparent relation to each other, except in the following instances, which have already been mentioned: 4 cases under one roof on Calle San Fernando (November 12, 13, 16, and 22); 2 cases in one house on Calle Teodora Alonzo (November 26 and December 2); and 2 cases in the same house on Calle Cabildo, Intramuros (November 23 and December 11).

The other cases during October, November, and December were apparently sporadic and unrelated, either to the other human cases or to the few scattering cases of rat plague discovered from time to time. Without doubt, however, all were actually related to preceding cases of rat plague—that is, to undiscovered rat cadavers, dead from plague, and deserted by infected fleas.

In plague houses dead rats were actually found, although the advanced degree of dessication and mummification defeated the biologic determination of the cause of death.

In 518 Calle Teodora Alonzo, 973 Calle Azcarraga, and 282 Estero de Binondo dead rats were actually found, although the advanced degree of dessication and mummification defeated the biologic determination of the cause of death.

In other plague houses the recent finding of dead rats was alleged by the occupants, but rather too indefinitely to record positively.

A study of the maps and lists showing the localities in which cases of rat plague had been found up to this time (December 26, 1912), in connection with the location of plague houses, is much less suggestive than a similar study of the lists and maps covering the cases of 1913. However, the existence of concurrent rat plague and human plague, in corresponding sections of Manila, had been well established already by bacteriologic studies of captured rats made at the Bureau of Science. Of nearly equal weight was the observation concerning the two epidemics, rat and human, at the railway station, which has already been described.

The year 1912 closed, then, with a recorded total of 50 human cases and 7 verified cases of rat plague.

January, 1913, saw but a single case of human plague. This occurred on January 24, just a month from the last previous case, that of Christmas Day. During this month no case of rat plague was reported.

In February 3 human cases occurred and in March 4 cases were recorded. Early in March, 1913, cases of rat plague began to occur in the Tondo district in a section lying between Manila Bay and the Estero de la Reina and extending northward from Calle Morion. This was a new district for rat plague, and as the cases increased in number it was easy to foresee and predict the appearance of human plague in the same district, which in point of congestion of population, poverty of its residents, and in the matter of dilapidation of its light-material houses and shacks, is about the worst locality in Manila. From March 22 to the present time all the cases of human plague—11 in number—have occurred in the midst of this district. During the same period 26 cases of rat plague have been reported from the same section.

The human cases in April were 5 in number, all originating in the same house, and the May cases numbered 4, two of which occurred in the same house.

It may be explained, in passing, that two cases of human plague discovered in Malolos, 25 miles from Manila, on March 23 and March 26, respectively, were definitely traced to the same house in Manila, No. 12 Calle Aguila, Tondo, both patients having lived in the basement of this house until within forty-eight hours of the development of the disease. These persons were unrelated and were two of a large number of people who lived in a tenement at this address. Both patients were detected, while still alive, in Malolos, where they were living in different and widely separated houses. One of the patients died in Malolos, but the other one was brought to Manila by train and died at San Lazaro Hospital. Fortunately no infection was transferred to Malolos by these two persons. In this connection it is interesting to note that no other cases have been reported outside of Manila, except the Iloilo cases of 1912.

The plague-fighting organization is composed of 3 American sanitary inspectors and from 10 to 15 native assistant sanitary inspectors of the Bureau of Health, rat catchers and laborers of the Bureau, and laborers of the city of Manila supplied by the department of sanitation and transportation.

The combined force has varied in numerical strength from 100 to 150 men and has usually been divided into three parties, distributed in various parts of the city according to the local indications and needs from time to time.

Since the invasion of Tondo by rat plague we have made special effort to rat-proof the light-material houses of that section in the course of our cleaning operations by the closure of the open ends of bamboo timbers with cement and with tin cans. In addition to this, special attention has been given to the repair of broken cement work and hundreds of orders, verbal and written, have been issued upon owners in the rat-plague districts.

The number of houses in which bamboo timbers have been closed by cement or tin exceeds 700.

In addition to these means the very important problem of depopulating the insanitary basements of the light-material houses in squares where plague has occurred has been given attention, with the result that hundreds of families have been moved from these insanitary and dangerous ground-floor rooms to quarters well above the ground and measurably removed from the rats which roam over the ground from house to house foraging for food under kitchens and in ground-floor storerooms, tiendas, and eating places. The fish-packing factories afford them abundant food and a number of cases of plague have occurred adjacent to these fish establishments.

Rat proofing and rat destruction, then, should not be contrasted as alternative procedures or policies. Both are valuable and each has a proper place. In communities noninfected with plague and unexposed to infection, it will probably be found that rat proofing carried out in connection with repairs of old buildings and the erection of new ones will meet the requirements. On the other hand, in cities exposed to plague infection or already infected, rat destruction is bound to be necessary for years to come. In emergency the removal of people from intimate relationship with rats, so far as is possible as practiced recently in Tondo district, Manila, will often have to take the place of rat proofing; and rat destruction and expulsion will be found, in the last analysis, to be the methods upon which success or failure in fighting plague during epidemic time will depend.

Upon November 26, 1912, five dead rats were reported from the U. S. Army commissary warehouses on the Pasig River near the Malecon. They were found dead by workmen there and were thrown into the river by the finders and thus, unfortunately, examination for plague was prevented.

Upon the 27th of November a cat, known to have caught and eaten rats recently at this same place was reported as sick. The cat was taken to the Bureau of Science where was observed until she died, three days later.

At autopsy, typical bubonic plague (cervical) was disclosed and several guinea pigs inoculated from a swab introduced into the cat's rectum, also died from plague.

Four kittens, recently born of this plague cat, were observed for two weeks but showed no sign of the disease.

Subsequently about 80 rats were caught at these warehouses and in the vicinity, but none of them showed post-mortem signs of plague. The Medical Department, U. S. Army, took up the matter of rat catching on all military reservations in Manila and in all buildings thereon, but no more cases of animal plague were discovered.

With the exception of a few cases on Calle Cabildo and the cat plague in the Army warehouse, all of the plague has been confined to the north side of the Pasig River, no plague of any kind having occurred on the south side since December, 1912.

The following is a summary of the regulations based on the Manila ordinance which are now rigidly enforced to bring about general rat-proof construction:

All proposed new buildings of whatever nature, whether factory, stable, garage, bodega warehouse, private dwelling, or any other class of building, shall be designed and erected so as to have no hollow ceilings, walls, columns, stairs, floors, etc. This shall also apply to repairs or alterations to existing structures. Whenever a ceiling or hollow partition is removed the same shall not be replaced.

Architects, builders, and others concerned are requested to incorporate the following paragraph in plans and specifications for future buildings of this nature:

"For the purpose of preventing the entrance and harboring of rats, etc., this building will be (constructed, repaired) without hollow walls, hollow ceilings, hollow stairs, hollow floors, hollow columns, etc.

"All walls, with the exception of solid wood framing, within one meter of the ground will be of concrete, brick, stone, mortar, or other material proof against the incursions of rats and will extend below the ground a depth of at least twice the thickness of the wall."

PLAGUE IN ILOILO.

BEDBUG TRANSMISSION.

In Iloilo a case suspicious of plague was reported on July 5 and this diagnosis was subsequently confirmed by the laboratory. It occurred in the person of a Chinaman who was reported to have come from Bais, Oriental Negros, but later investigation showed that he had been a resident of Iloilo at least since February, 1912. No further cases were reported until the 18th of August, whereupon the Assistant Director of Health, Dr. Carroll Fox, a number of sanitary inspectors, and the necessary supplies were sent to Iloilo to combat the plague. The outbreak was brought to a speedy close. There were in all 9 cases and 9 deaths. No new cases have been reported since September, 1912. In spite of the very extensive rat catching which was done, no plague-infected rats were found. Another characteristic of the outbreak was the fact that all of the cases occurred in two houses. Owing to the absence of rat plague and its yielding readily to isolation and disinfection, it has been suspected that perhaps the origin of the plague in Iloilo may have been due to bedbugs. There is, however, no scientific proof to this effect. It is also noteworthy that the disease did not have its beginning along the waterfront or among persons who had been away from the city or those who are engaged in the business of shipping.

PLAGUE AT MALOLOS.

On March 22 a case of plague was discovered at Malolos. Investigation showed that the victim had left Manila on or about March 18 and came from No. 12 Calle Aguila, which is in the vicinity of Nos. 204 and 232 Calle Concha where plague-infected rats had been found.

On March 28 another case, in the person of a girl who had been ill over a week, was discovered at Malolos, which came from the same house in Manila as the first case. The two were found in widely separated sections of Malolos and apparently had no connection with one another after their arrival in that town.

A rat campaign was immediately begun and carried on for some time, but no plague-infected rats were found.

Both of the cases occurred well within the incubation period of the disease, so that there is every reason to believe that the infection was contracted in Manila.

The first case died in Malolos and the second one at San Lazaro Hospital, to which place it had been transferred.

RABIES.

During the year four human cases with one death from rabies were reported. Recently efforts have been made for concerted action by the department of sanitation and transportation, Bureau of Internal Revenue, Bureau of Agriculture, and the police department to rid Manila of the large number of unlicensed dogs, for the muzzling of dangerous dogs when at large, and their destruction when affected by a dangerous communicable disease, as a preventive measure against the spread of this dangerous disease. Attention is invited to the fact that Great Britain and much other British territory has been rendered practically free from rabies by muzzling all dogs for a number of years and that legislation in the Philippines which would permit this to be done is both practicable and desirable.

SCHISTOSOMUM JAPONICUM.

During the year Dr. Vernon Andrews, associate professor of pathology in the College of Medicine and Surgery, University of the Philippines, while conducting an autopsy for the Bureau of Health, discovered a case of schistosomum Japonicum in a Filipino. This is the first case reported in that race. Other cases have heretofore been reported in the Philippines, but they occurred in Japanese or other foreigners.

SMALLPOX AND VARIOLOID.

That smallpox may still at any time become a most dangerous disease in the Philippine Islands has been well illustrated by the severe outbreak which occurred in the Province of Leyte. Since the number of deaths in the Philippines has been reduced from 40,000 or more per annum to a few hundreds there has been a widespread tendency to disregard the measures which are still necessary to assure a continuance of this condition of affairs. In Leyte there have already been reported over 300 deaths. These occurred almost without exception among unvaccinated children who had been born since systematic vaccination had been done, or in persons who came into the province in an unvaccinated condition. If the recommendations repeatedly made by the Bureau of Health that all unvaccinated persons be vaccinated during July and January of each year had been carried out, the outbreak of smallpox in Leyte would in all probability not have occurred.

In Manila there were 145 cases of varioloid reported. However, from work done by Major Ashburn, the chairman of the United States Army Board for the Study of Tropical Diseases As They Exist in the Philippine Islands, it appears that there is considerable reason to doubt the correctness of the diagnoses of varioloid heretofore made. Major Ashburn has conducted a number of inoculation experiments, all of which have resulted negatively, and he is of the opinion that the disease commonly called varioloid is either chickenpox or a closely related disease. His opinion is very much strengthened by the fact that there has not been a single death from smallpox or varioloid or of a disease resembling it since June, 1909.

SPRUE.

The investigation being made by the Army Board for the Study of Tropical Diseases As They Exist in the Philippine Islands shows that cases of sprue do not occur as frequently in the Philippine Islands as was heretofore assumed to have been the case. By a diligent search only 4 cases were found, and in 2 of these the diagnosis was very questionable.

TAON (Infantile Beriberi?).

Publications made during the year by Capt. E. B. Vedder, a member of the Army Board for the Study of Tropical Diseases As They Exist in the Philippine Islands, contain additional evidence that taon and infantile beriberi are probably synonymous diseases. At all events, remedies which were successful in preventing and treating beriberi were found equally successful in dealing with taon. This subject is more fully discussed under the head of "Beriberi."

TUBERCULOSIS.

The appropriations for combating tuberculosis were again made directly to the Philipine Islands Antituberculosis Society and that organization has been directly in charge of the active campaign which is being waged against tuberculosis in the Philippine Islands. This Bureau coöperated in every way possible with the efforts of the Antituberculosis Society, and in addition did an enormous amount of work on its own account. At the San Lazaro Hospital there was an average attendance of over 50 patients in the hospital for chronic cases of tuberculosis, and not a single case that applied was refused admission. The Baguio tuberculosis camp for the treatment of incipient tuberculosis has been filled to its full capacity and successful results have continued at that place in the treatment of the disease. The largest clinic of the Antituberculosis Society is maintained at the Philippine General Hospital by officers of the Bureau of Health.

As evidence accumulates it is becoming more and more apparent that the people of the Philippine Islands are afflicted with tuberculosis to perhaps even a larger extent than the people of most other countries, and much larger funds must become available for combating this disease before much reduction can even be hoped for.

In the departure from the Islands of Mrs. Egan, the president of the Antituberculosis Society, the antituberculosis movement lost one of its most enthusiastic supporters and hardest workers, which makes it all the more necessary for those who are yet associated with the movement to increase their efforts.

TYPHOID FEVER.

The following table shows that typhoid fever was widely prevalent throughout the Philippine Islands. These cases are based upon positive Widal reactions:

Provinces and towns.	Dates.	Total cases examined.	Positive.	Negative.
AMBOS CAMARINES.				
Calabanga	Aug. 8, 1912	1		1
Goa	July 12, 1912	1		1
Do	July 13, 1912	6	4	2
Do	Oct. 18, 1912	1	1	
Do	Nov. 13, 1912	1		1
Do	Nov. 23, 1912	1	1	
Do	April 11, 1913	1		1
Iriga	July 9, 1912	3		3
Pamplona	Aug. 5, 1912	12		12
Tinambac	Aug. 31, 1912	9		9
Do	Feb. 26, 1913	1		1
BATAAN.				
Balanga	Feb. 19, 1913	1		1
BULACAN.				
Baliuag	Aug. 19, 1912	3	1	2
Do	Aug. 20, 1912	1		1
Do	Aug. 24, 1912	1		1
Do	Oct. 19, 1912	1		1
Calumpit	Dec. 5. 1912	1		1
Malolos	Aug. 16, 1912	1		1
Do	Aug. 17, 1912	1		1
Do	Mar. 21, 1913	1		1
Do	June 5, 1913	1	1	
Do	Feb. 5, 1913	1		1
CAVITE.				
Cavite	July 13, 1912	1	1	
Do	July 30, 1912	1	1	
Do	Aug. 2, 1912	1		1
Do	Aug. 25, 1912	1		1
Do	May 2, 1913	1		1
Imus	May 23, 1013	1	1	
Do	June 6, 1913	1	1	
Naic	May 20, 1913	1	1	
Rosario	May 17, 1913	1	1	
Do	June 3, 1913	1		1
Do	June 19, 1913	1		1
Sta. Cruz de Malabon	Aug. 23, 1913	1		1

Provinces and towns.	Dates.	Total cases examined.	Positive.	Negative.
CEBU.				
Carcar	May 6, 1913	1		1
Do	May 26, 1913	1		1
Cebu	Sep. 1, 1912	1		1
Do	Mar. 18, 1913	1		1
ILOCOS SUR.				
Vigan	Oct. 1, 1912	1	1	
Do	Nov. 1, 1912	1		1
ILOILO.				
Iloilo	Sep. 19, 1912	1	1	
Do	Oct. 19, 1912	2		2
MOUNTAIN.				
Bontoc Hospital	Nov. 30, 1912	14	6	8
Do	April 2, 1913	1		1
Do	May 17, 1913	2	2	
Do	June 25, 1913	2		2
Tagudin	Mar. 3, 1913	4	2	2
Do	April 9, 1913	2		2
PALAWAN.				
Penal Colony	Mar. 6, 1913	1		1
Do	June 1, 1913	1		1
PAMPANGA.				
Bacolor	Sept. 12, 1912	1		1
Do	Sept. 14, 1912	1		1
Do	Sept. 16, 1912	1		1
Lubao	Nov. 5, 1912	1		1
Do	Dec. 4, 1912	1	1	
Macabebe	May 8, 1913	1	1	
Mexico	Jan. 20, 1913	1		1
Do	Jan. 31, 1913	1		1
Porac	Jan. 2, 1913	2		2
Do	Jan. 28, 1913	1		1
Do	Jan. 29, 1913	1		1
San Fernando	Sept. 12, 1912	1	1	
PANGASINAN.				
Alaminos	Nov. 11, 1912	1	1	
Do	Jan. 3, 1913	2	2	
Do	Jan. 13, 1913	1		1
Bolinao	Nov. 1, 1912	1	1	
Lingayen	April 10, 1913	1		1
Do	May 2, 1913	1	1	
Do	May 13, 1913	1		1
San Isidro Potot	June 21, 1913	1		1
RIZAL.				
Boso-Boso	Dec. 9, 1912	1	1	
Taytay	May 7, 1913	1	1	
TAYABAS.				
Lucena	June 13, 1913	1		1
Mauban	Mar. 3, 1913	1	1	
Tayabas	Aug. 21, 1912	1	1	
Do	Sept. 4, 1912	1	1	
Do	Sept. 10, 1912	1	1	
Do	Sept. 20, 1912	1		1
Do	Oct. 1, 1912	1	1	
Do	Oct. 2, 1912	1	1	
Do	Oct. 7, 1912	1	1	
Do	Nov. 11, 1912	1	1	
Do	Nov. 27, 1912	1	1	
UNION.				
Bauang	July 26, 1913	1		1
Do	Aug. 16, 1912	2		2
Agoo	Mar. 14, 1913	1	1	
ZAMBALES.				
Iba	Feb. 7, 1913	2	2	
San Felipe	Nov. 14, 1912	2	1	1
Total		141	49	92

Cases in provinces, by months.

Years and months.	Total cases examined.	Positive.	Negative.
1912.			
July	13	6	7
August	35	2	33
September	9	4	5
October	8	5	3
November	24	12	12
December	3	2	1
1913.			
January	9	2	7
February	5	2	3
March	9	4	5
April	5	0	5
May	12	8	4
June	9	2	7
Total	141	49	92

Cases reported in Manila, by months.

Years and months.	Cases reported.	Deaths.
1912.		
July	--------	4
August	--------	3
September	3	7
October	7	4
November	10	6
December	11	7
1913.		
January	11	8
February	9	7
March	5	4
April	2	5
May	6	9
June	9	1
Total	73	65

There was an outbreak of typhoid fever in Tagudin and another in Pangasinan, which threatened to assume serious proportions, but the usual sanitary measures resulted in preventing its spread in epidemic form. The question of typhoid has been constantly agitated during the year and a regular campaign of education has been persistently waged.

The following circular was issued with regard to making of diagnoses by blood examination:

It is the desire of the Bureau of Health to obtain as much accurate information as possible on the subject of typhoid fever in the Philippine Islands, and in order to accomplish this the coöperation of all physicians is necessary. Physicians can best extend this coöperation by sending to the Bureau of Health, for examination, specimens of blood from patients under their charge who have had fever of a more or less continued type for at least ten days.

The following suggestions relative to the methods that have been found best for collecting specimens of blood for this purpose are made to district health officers, who, in turn, should transmit them to the presidents of municipal boards of health and the practicing physicians in the different municipalities in their districts.

The best way to send blood for the agglutination reaction for typhoid fever is by the use of a Wright's capsule. This capsule consists of a glass tube of small caliber drawn out at both ends to the size of a capillary tube and sealed. To use it place tightly around the base of the thumb of the patient an elastic band so that marked congestion is produced. Wash the site of the proposed puncture with alcohol and then with a sterile needle puncture the skin at the base of the nail. Break off under aseptic precautions the tips of both ends of the capsule, and immerse the bent end in the drop of blood which exudes from the thumb. It will readily fill. Seal the straight end and shake toward it the blood that has been collected in the capsule. Then seal the bent end. Sealing is best done with flame of an alcohol lamp. If a flame is not at hand, the ends of the capsule may be sealed by a bit of paraffin or sealing wax. It is the intention of the Bureau of Health to furnish these capsules as soon as possible.

Whenever capsules are not available a large drop of blood, which may be obtained in the way described above, is placed on a clean glass slide, glazed paper, or tin-foil and permitted to dry. It must not be spread out as is done with specimens for malaria or leprosy. It must be permitted to dry as a drop and should then be protected so that it will not scrape off.

The name, age, sex, nationality, barrio, municipality, province, duration of illness, and other pertinent data should accompany every specimen sent.

This Bureau will forward the result of the laboratory examination to the physician in charge of the patient, in every instance in which it is desired.

(See water and hand-borne diseases, page 55.)

TYPHUS FEVER.

A number of cases suspicious of typhus fever were encountered, but not sufficient confirmatory evidence could be obtained as to the correctness of the diagnosis to warrant reporting them as typhus.

YAWS.

Applications for free Salvarsan have been received from many sections of the Philippine Islands for the purpose of combating yaws. While accurate statistics are not available, it is known that the remedy was successful in producing a cure in nearly every case.

FINANCES.

The Legislature failed to pass an appropriation for the current expenses to maintain the Government, and funds had again to be made available by the Governor-General by allotment. The **last** appropriation Act for current expenses of this Bureau was passed over three years ago, so that the difficulty of meeting the requirements of the present with a law of the distant past, will be readily appreciated, especially since this is a Bureau which is constantly called upon to meet new emergencies.

At the beginning of the fiscal year ₱1,417,000 was allotted to the Bureau of Health. In addition to this sum there became available for expenditure sums derived from collections, restorations, and transfers made during the year which amounted to ₱435,761.73, or a total of ₱1,852,761.73 with which to meet the expenses of the year. Of this amount ₱1,691,889.73 has been expended. There are outstanding obligations to the extent of ₱40,360.45, not including ₱45,057.60 for unfilled requisitions which leaves a net balance of ₱163,484.87.

A complete financial statement will be found in the appendix.

RECOMMENDATIONS.

1. A tax upon polished rice in order to discourage its consumption, the accomplishment of which object will probably result in the saving of many thousands of lives annually and bids fair to reduce the infant mortality.
2. Legislative authority to abate nuisances on private property and to make the cost thereof a lien against the property.
3. Restoration of the privilege to purchase medical and surgical supplies in the open market. The present system is both cumbersome and expensive and prompt relief for the sick is often unnecessarily delayed.
4. A law to make the muzzling of dogs compulsory for several years. The enforcement of such an Act would result in the eradication of rabies which is now responsible for many deaths.
5. Further amendments to Act No. 2156 to permit more central control of provincial sanitation.
6. An appropriation to construct additional buildings for the insane and to provide for the maintenance of a largely increased number. The present facilities are entirely inadequate to meet the needs of even the most urgent cases of insanity.
7. The adoption of a plan by which the low lands of Manila will be more rapidly filled in and the esteros walled and made more sanitary.

ACKNOWLEDGMENT.

The undersigned begs to acknowledge the uniform courtesy which has been shown him by his official superiors; and the loyalty and personal sacrifice of the officers and employees of the Bureau of Health who have aided him in bringing the health and medical work of the Philippine Islands to its present standard.

Respectfully submitted.

VICTOR G. HEISER, M. D.,
Surgeon, Public Health Service,
Director of Health.

The Honorable the SECRETARY OF THE INTERIOR,
Manila, P. I.

REPORTS OF DIVISIONS, DISTRICT HEALTH OFFICERS, AND BOARDS OF EXAMINERS.

REPORTS OF DIVISIONS, DISTRICT HEALTH OFFICERS, AND BOARDS OF EXAMINERS.

BAGUIO HOSPITAL DIVISION.

[Extract from the report of the chief.]

The period embraced in this report completes the fifth year of operation of the new Baguio Hospital. The statistical tables in another part of the report show the work accomplished by the institution.

DISEASES.

The city of Baguio and subprovince of Benguet have been remarkably free from contagious diseases during the past year.

Five cases of varioloid and three of measles have been found, all occurring during the off-season. The past official season is the first in which no varioloid occurred among Government employees. The fact that all Government employees planning to go to Baguio were vaccinated in Manila a month before departure seems a reasonable explanation of this immunity.

Sixteen cases of bacillary dysentery, with two deaths, have been treated during the year. These cases, for the most part, came from the camps of the Manila Railroad Company. No cases have been seen since December, 1912. This is a much better record than that of the preceding year.

Likewise, in striking contrast to previous years, the number of cases of acute diarrhœa occurring during the season has been exceedingly small. A few cases occurred after the heavy rains in May, but only a comparatively small number of individuals were afflicted.

Health conditions in Baguio during the official season just closed have been much better than in previous years, undoubtedly a result of sanitary measures adopted in 1912.

SANITATION.

The anti-fly campaign of 1912 made Baguio a clean city, and every effort has been put forth to make this condition permanent. A new and much larger incinerator for the destruction of garbage and manure has been built. The pail dump has been properly cared for. The nuisances arising from the Government Center septic vaults have been eliminated. Funds have been made available for the beginning of a sewer system. More thorough sanitary inspection of premises has been carried out. Permits for the use of stable manure as fertilizer have been granted to a few individuals only and a method devised whereby, if properly handled, manure can be used without breeding flies. As a result there have been very few flies in Baguio during the past year. Owing to limited funds, a limited sanitary force, and a great area to cover, the elimination of mosquito-breeding places has been only partially successful.

From the viewpoint of a sanitarian, Baguio can now more truly be called a health resort.

BONTOC HOSPITAL DIVISION.

The following extract is from the annual report of the chief of the Bontoc Hospital division.

"The nurses' quarters, a two-story brick structure, provides a pleasant home for the nurses and at the same time increases the capacity of the hospital by eight beds. Ground is being broken for both the doctor's residence and service building which, when completed, will materially increase the working capacity of the hospital by permitting a number of employees to vacate space therein.

"The preponderance of work has been surgical cases, and it is with surgical relief that the greatest amount of good can be accomplished among these mountain people. The first case of syphilis in an Igorot was treated with Salvarsan at the hospital in May.

About 75 cases of yaws have been treated with marked success, adults receiving intravenous and children intramuscular injections of Salvarsan.

Three cases of typhoid fever were admitted to the hospital toward the latter part of the year, two of which died.

Several cases of tinea imbricata from the Natonin Valley were brought to the hospital for treatment. Malaria is generally found to be common where tinea imbricata is found and these cases improve more quickly with a combined malarial and local treatment.

BUTUAN HOSPITAL DIVISION.

[Extract from the report of the chief.]

The Butuan Hospital is conducted under the supervision of the district health officer of Agusan Province. The local force consists of a hospital physician, who acts as cashier; a trained male nurse; and two servants.

In the hospital are treated all classes of disease, except those of a dangerous communicable character.

The number of patients admitted during the year was 117, which, with the 2 who were brought over from last year, make a total of 119 treated during the period covered by this report. Of this number 7 died, 106 were discharged as cured, and 6 are carried as remaining in the hospital at the close of the year. Six major and 11 minor operations were performed with curative results in each instance.

Dangerous communicable diseases are treated in special detention camps for each disease.

From the leper detention camp 11 persons were sent to Culion leper colony.

If the dispensary service of the hospital continues to grow in the future as in the past it will be necessary to ask for an increase in the personnel, especially in the nursing force and in the number of servants.

In the hospital and dispensary the indigent poor are treated free, but in case of those who are able to pay a small fee is collected and covered into the treasury.

CLERICAL DIVISION.

The administrative work of the division was handicapped by the absence on leave in the United States of Mr. Myron H. Chandler, its chief, and was further inconvenienced by the absence of an American stenographer for a part of the year. The work of the division had been so systematized, however, that no great difficulty arose in connection with its management.

That the efforts of the Bureau toward establishing health organizations and improving sanitary conditions all over the Islands are meeting with results, is evidenced by substantial increases in the volume of work in the various sections of this division.

There was 25 per cent more of work in the record section during the fiscal year 1913 than for the preceding fiscal year, and the whole was efficiently done despite the absence on accrued leave of one-third of its American clerical force during the entire year.

Although the financial section worked many hours overtime, it was necessary to employ an additional clerk in order properly to handle the added volume of business.

These increases in the volume of work were not occasioned by any extraordinary conditions developing during the year, but represent an apparently normal extension of routine health work: The opening of the Southern Islands Hospital; the organization of seven provinces into municipal health divisions under Act No. 2156; the broadening of the work of the Butuan Hospital; the work preliminary to the thorough inspection of and comprehensive report upon all municipalities throughout the Islands to form the basis from which to direct future work of improvement; the insistent demand upon all offices and employees for alertness to discover, and prompt work against, epidemic diseases; and the campaign for the establishment of the pail system, garbage collection systems, and street cleaning systems all show how much more strongly the work of sanitation has taken hold during the past year, and indicate the tremendous progress within easy reach in the future, provided the necessary money becomes available.

Because of the presence of plague in the city of Manila, it was not possible for the Bureau to go to Baguio this year, but the health of the personnel of this division has, nevertheless, been good, not a single day's absence of any employee having been due to sickness. The financial statement will be found in the appendix.

CULION DIVISION.

[Extract from the report of the chief.]

The permanent construction work of the year just past has all been on or near the Worcester Plaza with the exception of the new sewer, which, beginning at lavatories Nos. 4 and 5, runs the entire length of the colony to terminate in a septic tank on the beach. Lavatories Nos. 1, 2, 4, and 5 and the new kitchen are connected to it permanently, and the old kitchen and the hospital temporarily.

On the south side of Worcester Plaza, tenement house No. 9 has been constructed entire, also lavatory No. 4, which is near by. The floor of tenement house No. 8 has been laid, and Nos. 5, 6, 7, 8, and 9 provided with steps, drains, and pavements. The space at the rear of this row was also excavated to give room for a roadway 3 meters in width connecting with the road leading past the crematory. These buildings are now in occupancy and afford a welcome addition to the amount of house room available.

Along the north side of the plaza four buildings have been constructed—tenement houses Nos. 10 and 11, lavatory No. 5, and an amusement hall.

Plans for a massive concrete stair, in two flights, to connect the Worcester Plaza with the lower plaza, on which the post-office and tienda building and the new general kitchen are located, were received some time ago, and the necessary excavation for the stair and the slopes and terrace on each side have progressed satisfactorily.

Near the post-office and tienda building, and on the same level, a new concrete general kitchen, 8 by 24 meters in size, has been constructed.

The construction of the new sewer system involved the reconstruction of about 150 meters of roadway along the main colony level between tenement house No. 2 and lavatory No. 2. In the course of the work, this part of the road was widened to 5 meters and brought to a uniform grade of 2½ per cent. A road has also been laid out, beginning on the main level near lavatory No. 2 and running to the rear of the tienda and new kitchen to connect with the roadway previously mentioned at the rear of the south side of Worcester Plaza.

The large amount of material necessary to be excavated in making this road and the slopes and terrace leading to Worcester Plaza is being advantageously used to widen the level area in front of tenement houses Nos. 1, 2, and 4, and near the hospital. The finishing touches were given to the crematory and it was put into operation about the middle of July and has been an unqualified success.

In Balala, as the nonleper portion of the settlement is called, but little permanent construction has been undertaken during the year. The large wooden house with galvanized-iron roof, across the bay, constructed during the incumbency of Doctor de Mey, and used by him as a residence, and which had practically been abandoned for several years, was taken down and the materials employed in building quarters for married native employees, in a little valley about 500 meters northeast of Balala.

Within the colony proper, several important projects have been accomplished during the year with leper labor. Between the Chinese tienda and lavatory No. 3, a distance of over 100 meters, the beach road has been raised about 40 centimeters, widened from 1 to 4 meters, and faced with stone on a slope.

From the culvert at the foot of the long concrete stair, the storm-water gully leading down to the beach has been straightened and lined with concrete rubble.

A new street was laid out at a level about 7 meters above that of Worcester Plaza, making a complete circuit of colony hill, a length of about 600 meters, thus giving room for the construction of many new houses on street lines; a flight of steps, partly of rock fill and partly of concrete, was constructed to give better access to the large nipa barrack constructed last year on the hillside above the morgue. A nipa building was constructed for use as an outdoor clinic, and a considerable length of ditching was done in various parts of the colony.

In addition to the work above mentioned, the daily routine of keeping the colony in a cleanly condition has required much labor. One item alone of this is the daily delivery of 150 or more cans of garbage and rubbish to the crematory. This, besides street cleaning, oiling, or varnishing woodwork of permanent buildings, going over all concrete buildings with cement wash, whitewashing wooden buildings, rebottoming beds for the hospital, repairing nipa roofs, and making about 10,000 nipas.

Much credit is due Mr. Whalen for his active interest in the sanitary condition of the colony and his intelligent direction of the leper labor.

The number of nipa houses in the colony has been largely increased during the year, there being now over 400, of which something over one-half are new. These new houses have been constructed by the individual initiative of the colonists, who have themselves procured most of the materials, with the exception of nipa. About 130,000 nipas have been used during the year.

Although visited by several baguios during the month of November, the colony sustained very little serious damage. The launch *Culion* has continued to give good service throughout the year. She has towed in to Culion all of the lumber, sand, and gravel used in the building operations.

Several adjoining islands were reserved, by law, for the use of the colony and the settlers have all been removed without subjecting them to hardship.

The Indian bull was exchanged with the Bureau of Agriculture in August, and the new bull has proved to be a much better breeding animal than his predecessor.

The colony ration was improved during the year by the substitution to some extent of fresh fish for dried fish and canned salmon.

With the exception of one consignment, the rice furnished during the year has been unpolished, and all of good quality, and the almost complete absence of beriberi has been the gratifying effect.

The average number of persons subsisted in the colony proper—the leper mess—for the year has been 2,959; the total cost of subsistence, ₱162,192.36; the average cost per day, ₱444.362; and the per capita cost per day ₱0.15017.

During the month of January cattle buyers from Manila entered the Province of Palawan, and their activity threatened for a time to force an increase in the price of beef furnished the colony. The danger appears to have passed over for the present, but it may easily recur at any time. To prepare for an emergency it is recommended that the possibilities of the Unisan pasturage be developed to their full extent.

The number of dressings performed frequently reaches 500 in a day. Early in the year a clinic for the administration of chaulmoogra oil by injection was established, and the number attending is considerably over 100 for each day in the week.

On December 1 a number of colonists, who appeared to be much improved clinically, were examined bacteriologically, and 14—7 men and 7 women—were at that time negative. All of these had been taking chaulmoogra oil with a good deal of persistency.

On March 4, 4 of these women were reëxamined and were again negative, and 1 of them, Valentina Cabilao, was transferred to San Lazaro Hospitals. The 7 men were reëxamined, and 6 were again negative, 1 positive. Four children have been transferred to the Hospicio de San José. The oldest of these was 3 years; all were negative bacteriologically and clinically up to and at the time of transfer; all were born at the colony and all except one conceived there.

There has been a net increase of 683 in the population of the colony during the year; the particulars are shown in the following table:

	American, male.	European, male.	Filipino.		Chinese, male.	Chamorros.		Total.
			Male.	Female.		Male.	Female.	
Present July 1, 1912	1	3	1,639	971	1			2,615
Admitted			733	320	2	11	5	1,071
Readmitted			46	6				52
Born			21	15				36
Total	1	3	2,439	1,312	3	11	5	3,774
Died			281	99	1	3	1	385
Discharged			2	5				7
Escaped			77	7				84
Remaining June 30, 1913	1	3	2,079	1,201	2	8	4	3,298

INSPECTION DIVISION.

The work of this division during the past year has not varied in character from that of other years and, although the task is one which is endless, the results achieved year by year serve as stepping stones which mark the progress of sanitation in the city of Manila.

A handbook for assistant sanitary inspectors of the Bureau of Health has been compiled which contains all necessary instructions for carrying out the duties imposed upon the corps, also the ordinances and regulations with which they must be familiar.

This will greatly increase the efficiency of the service, as hereafter before an assistant sanitary inspector can be recommended for promotion to a higher grade he must pass a satisfactory examination based upon the handbook.

For distribution of personnel of the office of the Assistant Director of Health June 30, 1913, see following table:

	Medical inspectors.	Municipal physicians.	Sanitary inspectors.	Assistant sanitary inspectors.	Sanitary police.	Disinfectors.
Station A	1	3	4	21	6	[a]5
Station C	1	2	2	15	2	
Station I	1	1	1	11	3	
Station J	1	1	1	10	3	4
Station L	1	1	1	6	3	
Plague-suppressive measures	[b]1		1	7		
Mosquito campaign			1	8		
Division of sanitary engineer			2	1		
Property division			1			
Central Office	2					
Bilibid Prison, sanitation division	[c]1					
Provincial duty	4		1	3		
San Lazaro Hospital	[d]1					
On leave	3					
Total	16	8	15	82	17	9

[a] Includes 1 chief disinfector and 1 assistant chief disinfector.
[b] Medical inspector in charge of Station C.
[c] Chief, prison sanitation division.
[d] Chief, San Lazaro Hospital division.

The routine work of this division consists of house inspections, the abatement of insanitary conditions, and the enforcing of the ordinances where the public health is concerned; the inspection of dairies, laundries, bakeries, tobacco factories, foods and water in tiendas, and also of licenses. The work of mosquito extermination, the disinfection of houses in which communicable disease occurs, and the trapping and poisoning of rats in the campaign against plague has also been carried out by this division. Many complaints of insanitary conditions received from individuals have been carefully investigated and the proper remedy applied. Many houses have been partially vacated in order that they might afford the requisite amount of air space for the occupants and cards posted stating the number of people which may be accommodated in the various rooms.

An attempt has been made to vacate the basement floors of many houses in the district where cases of human and rat plague have been found, primarily as a plague suppressive measure and incidentally as a public health measure.

Overcrowding is a most important factor in the production of a high death rate, and experience has repeatedly taught us that increases in air-space allowance is followed by decrease in sickness and death rates.

Following fires in several bodegas, a large quantity of damaged foodstuffs were ordered destroyed and a force of sanitary inspectors placed in charge through whose hands all foodstuffs which were offered for sale were passed in order that the public might be protected from purchasing food not fit for consumption.

One sanitary inspector has been continued on special duty during the year with the Board of Food and Drug Inspection and one assistant sanitary inspector has been stationed at the Government ice plant to assist in carrying out the sanitary regulations.

The inspection of schools has been continued during the year and the reports on physical defects in school children show that many of the children suffering from disease receive dispensary treatment now, whereas formerly but little was done to alleviate their suffering.

During the year many applications for the opening of new cemeteries and the reopening of old cemeteries have been acted upon.

IWAHIG PENAL COLONY DIVISION.

[Extract from the report of the colony physician.]

The total number of deaths from July 1, 1912, to June 30, 1913, was 19, while the number of deaths, each year, during the fiscal years of 1910–11 and 1911–12 was 29. The comparatively low death rate, 16.8739 per 1,000, compared with the rate for the fiscal year 1911–12 of 27.3843 per 1,000, is due, to some extent, to the treatment of cases of blackwater fever and pulmonary tuberculosis, the two diseases which have figured greatly in the mortality rate of the colony.

Since December, 1912, there have been 9 cases of blackwater fever with 2 deaths and 7 recoveries, making a mortality rate of 22 per cent. Previous to this time there occurred 35 cases of the disease, 20 of which ended fatally, giving a mortality of 57 per cent. The mortality of this dreadful disease has been reduced to less than half of what it was formerly.

During the past fiscal year the number of deaths among the tuberculosis patients was 7, which is only half of the number of deaths from this disease during the previous year. From January, 1909, when the colony strength reached 500, to the beginning of the present year there has been no period of six months without a death from pulmonary tuberculosis. From January 3 to July 3 of the present year no death from pulmonary tuberculosis has occurred.

The total number of advanced cases of pulmonary tuberculosis among the colonists is shown in the following table:

Total number of colonists diagnosed as having tuberculosis three months after arrival in the colony	21
Total number of colonists diagnosed as having tuberculosis more than three months after arrival in the colony	105
Total number of colonists having tuberculosis	126
Total number of colonists	1,159

The total number of cases of malaria treated in the hospital during the fiscal year was 620, which is 102 less than the number of cases treated during the fiscal year of 1911–12, notwithstanding the increase of the colony strength. The percentage of malaria is relatively far greater among the colonists in the outlying stations.

Fifteen cases of dysentery have been treated during the year, two of which were amœbic and the remainder bacillary. These cases came from the following stations: Central colony, Malinao, Malamig, and Balsahan. The cause in each instance was traced to drinking unboiled water.

One case which was, clinically, typical typhoid fever died of perforation. The laboratory examination made by the Bureau of Science was negative for typhoid.

With regard to improving the sanitation of the mosquito-breeding places little has been accomplished. The Iwahig River as the principal breeding place of the mosquitoes was taken up officially last April.

During the year 1,202 cases have been treated among the colonists. The average daily subsistence per patient was ₱0.305, including the colony products, and ₱0.276, excluding the colony products.

PHILIPPINE GENERAL HOSPITAL DIVISION.

[Extract from the report of the superintendent.]

Total number of patients remaining in hospital June 30, 1912	250
Total number of patients admitted to hospital during the year	6,764
Total number of patients discharged and transferred during the year	6,732
Total number of patients treated during the year, not including out-patient department	7,014
Total number of patients refused admission	1,174
Total number of hospital days	90,957
Average number of hospital days per patient	13.5
Cost of maintenance, per patient, per day	₱4.496
Cost of maintaining a ward patient per day (approximate)	₱1.91
Cost of maintaining a private-room patient per day (approximate)	₱7.92
Cost of subsistence per person per day, including employees	₱0.598
Total number of patients treated in dispensary clinics	66,903
Average number treated per day	226+
Total number of prescriptions filled during the year	105,623
Average number of prescriptions filled per day	228+
Total number of ambulance runs during the year	2,135
Total amount expended for new construction during the year	₱44,535.81
Total amount expended for new equipment during the year	57,908.43
Total amount expended for maintenance and repairs during the year	465,906.80
Grand total expended during the year	₱568,351.04
Total income from operation during the year	220,546.35

WORK OF THE YEAR.

The report as presented marks the close of the third fiscal period, which has been made noteworthy by the accomplishment of many improvements, the addition of new equipment, the completion of additional buildings, together with much needed reconstruction at various points of the hospital.

NEW CONSTRUCTION AND REPAIRS.

Superintendent's residence.—The new building erected for the superintendent's residence, at a cost of ₱20,000, represents one of the most modern types of reënforced concrete construction. The entire structure is of concrete with red tile roof, broad verandas on three sides, and hardwood interior finish throughout. Ample provisions have been made for all the modern conveniences, leaving very little to be desired.

Main kitchen.—The Legislature appropriated the sum of ₱25,000 for the construction of an addition to the kitchen pavilion, and when this structure is completed it will be a thoroughly modern hospital kitchen.

Free dispensary building.—The construction of the free dispensary building has not progressed beyond the "office stage," but the plans have finally been approved and this work should be under way within a few weeks. The estimated cost is ₱78,000.

Operating rooms.—The lack of proper ventilation in operating rooms has been a source of great annoyance to nurses and physicians who are compelled to work in this department, and although every effort has been made to remedy the condition, there is still cause for considerable complaint.

Addition to private-room section.—Owing to the limited number of private rooms in the men's pavilion, it became necessary to reconstruct ward 308. The work is about completed, and provides four additional rooms.

Dressing room.—It was found necessary to reconstruct certain portions of floor 16 in order to provide an emergency dressing room. This was accomplished by removing two partitions, converting three small rooms into one large dressing room, which has been furnished with the various pieces or equipment necessary for a service of this kind.

Physicians' consultation rooms.—The steadily increasing demand upon the hospital physicians for office consultation necessitated placing at their disposal the room formerly designated as the library. Suitable equipment was transferred from other departments of the hospital, and a satisfactorily arranged office is now at their service.

Cold-storage rooms.—The cold-storage rooms were completely overhauled and the walls newly insulated. We are now able to properly refrigerate both rooms, one at an average temperature of 32° F., while the other, which is known as the "ordinary room," shows a temperature of 40° F.

Dark rooms.—A dark room has been provided for the department of opthalmology, which has served a useful purpose since its completion. A similar room has been arranged for use of the rœntgenologist.

Athletic grounds.—In order to insure proper exercise and suitable diversion for nurses and other employees of the hospital, it was deemed advisable to arrange for an indoor baseball diamond (which, by the way, happens to be outdoors) and basket, volley ball, and tennis courts. It is believed that this feature is destined to become a most important part of a pupil's training.

New fences.—The back portion of the hospital grounds has been completely inclosed by the erection of a substantial mesh-wire fence, and all traffic through the grounds is now prohibited.

Improvement to grounds.—The low land at the corner of Calles Taft and Padre Faura, and that adjoining the dispensary building, has been reclaimed and, instead of an unsightly mosquito-breeding swamp, one sees a large stretch of green lawn, laid out on the plan of a sunken garden. The back portion of the hospital grounds is rapidly being graded and drained, and here, too, the sunken garden effect will be carried out.

New equipment.—Much additional equipment, such as a new X-ray outfit, complete equipment for a dental laboratory, three new ambulances, and numerous pieces of small equipment have been purchased. The Philippine General Hospital to-day compares favorably with the most modern institutions of the time.

Ambulance service.—During the year the Bureau of Health deemed it advisable to discontinue the city contract for contagious and dead wagon work, and called upon the hospital to organize a new service. Accordingly, two new electric vehicles and one high-power gasoline ambulance were purchased and placed in the regular service.

Free dispensary.—The free dispensary continues to be crowded daily, and we have reason to relieve that the attendance is one of the largest in the world; 66,993 persons received treatment in this department during the year.

The Society for the Prevention and Treatment of Tuberculosis opened a clinic at the hospital, but on account of the overcrowded condition in the dispensary building, it was necessary to place at their disposal a portion of the garage, which, after having been properly arranged, afforded an ideal location for a clinic of this nature.

Dental clinic.—The dental clinic was established in conjunction with the free dispensary service and has proved to be a success from its inception; 2,766 persons receiving aid since August 13, 1912, the opening date of this department.

Steward's department.—A considerable saving has been made by adopting a system of cash purchases in the open market. Our steward is now provided with an advance fund which enables him to carefully observe the market conditions and purchase a limited number of articles of diet when and where he deems advisable. The benefit derived through this change may be readily ascertained by comparing the per capita cost of subsistence for this period with that of previous periods.

Rules and regulations.—The new book of Rules and Regulations, prepared by the Director of Health and approved by the Honorable the Secretary of the Interior, has been completed and became effective April 24, 1913.

The foregoing report might leave the impression that the scope of our activities was limited to purely local work, but when one considers the fact that during the year we have been called upon to equip a relief expedition detailed to the storm-stricken localities, furnish physicians and nurses for the same, and maintain emergency hospitals at the Manila and San Pablo carnival grounds, it may be readily seen that the benefits of the Philippine General Hospital are available even to those located in remote ditricts.

RECOMMENDATIONS.

An adequate appropriation to permit of the construction of a suitable mess hall for employees is recommended. The present facilities are extremely limited, and it is necessary to maintain three extra mess rooms at some distance from the main kitchen.

An appropriation is needed for the construction of a dormitory for pupil nurses. The present quarters are greatly overcrowded, and the building itself, which is an old wooden structure, is beyond repair.

The construction of a suitable property store is desirable. The present storerooms are located in an old building which has been condemned by the Bureau of Public Works, and the further use of this building may result in heavy loss on account of fire or damage by storm.

Appropriation is requested for the construction of a pavilion for patients suffering from infectious diseases.

Pavilion 7 should be reconstructed in order to provide a receiving room and emergency ward for incoming patients.

The appropriation of ₱15,000 for the purpose of repairing defective electric wiring within all buildings is urgently needed.

The installation of a bake oven to be used in connection with the repair of white-enamel equipment is recommended. Owing to the fact that San

Lazaro Hospital is equipped with a steam plant, it is suggested that this oven be located at that institution.

The removal of ampitheatre seats in operating room No. 2 and the reconstruction of this room is suggested.

The installation of the artesian-water system throughout the hospital is desirable.

Construction of a surface-water drain in front of dispensary.

A new water system for the service building.

The installation of a light-signal system for notification of doctors and nurses.

The placing of a contract for the oxidization of all brass fixtures.

The installation of a portable telephone system for private-room service.

That a public pay-station telephone be placed in the rotunda of the hospital.

The painting of the walls and ceiling of corridor 15.

The redecoration of the walls and ceiling of floor 16.

The decoration of the walls and ceilings of all private rooms and the corridors of private pavilions.

The painting of all metal ceilings, iron railings, and all exposed woodwork.

The surfacing of the driveway in front of the hospital with asphalt. This for sanitary reasons.

The decoration of newly reclaimed grounds by the planting of trees and shrubbery.

The employment of a competent assistant superintendent. Owing to demands made upon the superintendent for the execution of purely detail work, he is unable to devote a sufficient amount of time to the needs of the service. Appropriate action in this matter will leave the Superintendent free to study out the hospital problems, which would undoubtedly result in considerable saving and increased efficiency in all departments.

Relief from further responsibility connected with the administration of training-school affairs.

It is believed that the operating expenses of this division are out of all proportion to the income derived. The expenses should be decreased and certain features tending to increase the income developed.

The incorporation in the curriculum of the Philippine Training School for Nurses of a course of study in hospital economics.

Increased compensation for clerks, who, by reason of the nature of their duties, are compelled to work on Sundays and holidays and devote more than regular Government office hours to the service.

A reduction in the amount of copy work performed in clinical record division, with a corresponding decrease in the number of clerks.

The readjustment of all hospital appropriations as follows: The increase of appropriations for support of charity patients or a 25 per cent decrease in the number of such beds, without change in the appropriation; the decrease of the annual appropriation by the Bureau of Health for maintenance of hospital to the sum of ₱400,000, with authority to divert the income from operation to the maintenance fund. Provided that appropriations from the city of Manila and the College of Medicine and Surgery will be included in the hospital income, and provided further that any expenditure which may be properly classified as a "Capital outlay" shall be carried by special appropriations from the Bureau.

The adoption of revised schedule of personnel as shown in Table No. X.

That all persons, except the obviously indigent, pay the cost of service rendered by the electro-medical department, provided, however, that the rates for hospital and private pay patients remain unchanged.

A reduction in the number of drugs on "free list."

That some provision be made whereby the city of Manila shall bear a certain portion of the expense for upkeep of the hospital grounds.

Authority to assess employees sums sufficient to pay cost of damage to property for which they may be responsible.

The elimination of the central property division as a factor in the property accounting of this hospital.

That all of the following-mentioned property be placed on the expendable list: Glassware; china ware; all property marked "B. of H.;" linen; rubber goods; small instruments such as hypodermic needles, probes, and metal applicators.

Authority to abolish the system of furnishing male helpers with uniforms, provided, however, that the hospital shall keep on hand a stock of such uniforms which may be sold to employees in the service.

The employment of a thoroughly experienced operating room supervisor.

The purchase of the land and building on Calle Padre Faura adjoining the hospital grounds, with the provision that if funds are not available for such transaction that an option be taken on the property in question.

The abatement of the nuisance caused by smoke from the Bureau of Science smoke stack.

Investigation into the question of heating water and generating steam, by means of a sun engine.

These matters are all of more or less importance and it is requested that action be taken as soon as advisable.

[Extract from the report of the chief of staff, Philippine General Hospital.]

"The chief of staff was absent, sick, from July 20, to October 17, 1912. During this time the duties of the office were performed by Dr. P. K. Gilman."

PERSONNEL.

There have been several changes in the personnel of the staff during the year. Not more, however, than usually occur in a large service where a great many men are leaving for the United States on leave and by resignation, and where the Filipino physicians are completing their tours of hospital duty and entering private practice.

Dr. R. P. Strong, chief of the department of medicine, resigned during the early part of the year.

I am not quite certain of the reasons for failure to secure satisfactory men for junior positions on the faculty of the College of Medicine and the staff of the hospital, but three important reasons for this stand out clearly:

1. Attractive offers for contract work in private life made possible because of the scarcity of well-trained young Filipino physicians.
2. Early marriage with the consequent assumption of additional duties and responsibilities. (Graduate intern service and service in all junior positions in the clinical branches requires residence in the hospital.)
3. Erroneous ideas of the financial income from private practice and failure fully to appreciate the opportunities offered by a career in the purely medical sciences.

As compared with institutions performing similar educational and therapeutic work to that of the combined service of the Philippines General Hospital and the College of Medicine and Surgery, it would seem that our service ought to prove a very attractive one to young graduates.

During the period of organization of the two services there was considerable confusion in establishing regular lines of promotion and corresponding positions in the hospital and College of Medicine. This matter now has been adjusted until all serious obstacles have been removed. Early in the present fiscal year the executive board of the faculty of the College of Medicine and Surgery adopted an outline of college positions according to which the faculty would make its future recommendations.

OUT-PATIENT DEPARTMENT—FREE DISPENSARY.

The statistical work of this division is shown in the appended table. There was a total of 26,717 patients making first visits as against 25,171 patients for the fiscal year 1912. Total number of dispensary visits 66,993, as against 64,673 last year. There were 105,622 prescriptions compounded against 83,517 last year. Of patients making more than one visit to the dispensary, there were 39,302, against 39,502 last year. In the children's clinic 8,274 visits against 7,557 last year. Government employees who visited the clinic in 1913, 6,503, as against 1,418 last year.

The free dispensary division has not grown as rapidly during the year as was anticipated. This is due largely to a change in the regulations requiring a 20-centavo ticket for patients who are able to pay. There is nothing in this regulation which should deter genuine charity cases from applying at the dispensary and receiving treatment, but that such has been the case seems to be a demonstrated fact, the probable explanation is that the ignorant people who largely attend these clinics do not understand the rule. The institution of this regulation, it seems to me, has not been an unmixed blessing and I am of the opinion that it is doing the dispensary service more harm than good. However, the object of the regulation was a very praise-worthy one, namely, the prevention of abuse of dispensary privileges.

During the year a dental clinic was added to the other clinics of the dispensary service. It is under the immediate direction of Dr. Louis Ottofy and the following is abstracted from his report of the work of the clinic from the date of its organization to June 30, 1913:

"The clinic was opened on August 13, 1912; * * * 1,592 patients having been treated at the clinic during less than eleven months of its existence. It is the practice of the clinic to give free of charge service for the relief of pain to any one who is too poor to pay the 20-centavo fee established by the free dispensary. All possible safeguards have been thrown about the work to prevent any one who is able to pay the usual fees of practicing dentists from making unwarranted use of the clinic. * * * In addition to relief in case of pain, it is the duty of the clinic assistant to teach dental hygiene, to call attention of patients to the importance of the teeth, and by doing some conservation work for them, to give practical lessons in saving teeth. * * * and the clinic, instead of being a detriment to practicing dentists, is actually of benefit to them as well as in the interests of the advancement of the profession. * * *

"Arrangements have been made to render the necessary dental services to at least ten public school children each week, * * * and it is to be hoped that in course of time, a regular school clinic may be established, and the benefits of dentistry extended to a much larger number of children than is possible at the present time.

Patients who for the first time visited the clinic	1,592
Male	1,058
Female	534
	1,592
Filipinos	1,575
White	12
Chinese	2
Hindoo	3
Total	1,592
Number of repeated visits	1,001
Total number of visits	2,593
Operations performed:	
Treatments	2,641
Extractions	1,072
Gold fillings	8
Amalgam fillings	92
Cement fillings	23
Temporary stoppings	13
Bridges (gold crowns; porcelain dummies)	9
Gold crowns	22
Cleaning cases	18
Fracture of the mandible, treatment	1
Prosthetic nose	1
Prosthetic eye	1
Total	3,901
Total amount paid by patients to the cashier of the hospital, exclusive of the 20 centavo fees paid by patients of the dental clinic since March 10, 1913	₱616.00"

I wish to go on record as being opposed to the present methods of this clinic in doing gold fillings, gold crowns, and other expensive dental work. In my opinion the service should be limited strictly to charity just as already has been recommended for other clinics of the dispensary. It seems to me an unnecessary and inadvisable procedure to put on 22 gold crowns in the free dispensary dental clinic. Patients who are able to pay for this class of work should patronize the dentists in the private practice of their profession. It is therefore recommended that instead of increasing the personnel of the dental clinic, the class of work mentioned be interdicted so as to allow members of the present staff to devote their time to the real charity of this work.

VISITING AND OFFICE CONSULTATION DIVISION.

During the eight months of the preceding year, of which we have records of this division, there were 8,368 office consultations and 213 outside visits to government officials and employees by members of the staff delegated for this purpose. During the present year there were 25,077 office consultations and 512 outside visits in this service, showing a phenomenal growth in this class of work during the present fiscal year.

One reason for the enormous development of this service is the very large increase in the number of Filipino employees of the Government who are availing themselves of the Government regulations giving them free treatment and free medicine. Inasmuch as there is a possible clientele of some 80,000 to 90,000 persons in the Philippine Islands entitled to this service, it is to be expected that a still further increase will occur during the next fiscal year.

THE CARE OF GOVERNMENT EMPLOYEES.

The care of Government patients is, of course, a requirement of law, but nevertheless in many cases it is a very trying duty. Practically all complaints both of the hospital and out-patient service that have been received during the year have been from Government patients. There are times, of course, in a large institution like this, where criticism due to lack of prompt attention, and, possibly at times, inefficiency, might be justifiable, but I believe that the amount of dissatisfaction with the hospital is out of all proportion to any *justifiable* criticism that could be made of the service. The idea of getting something for nothing may be responsible for a great deal of the dissatisfaction and criticism made of the hospital and of the government service in general. It is human nature to prize that most for which the highest price is paid and to attach but little value to the things that cost but little effort, financial or otherwise. The belief of some Government patients that they are considered to be *charity* patients by the physicians of the hospital and consequently do not receive the best of care and attention is another prevalent reason for complaints and criticisms of the hospital.

Instances are constantly being repeated in which Government patients request to be treated as private patients and to be allowed to pay for the service rendered. Upon being informed that this is in violation of the law they frequently refuse the services of the staff of the hospital, call in an outside physician, are treated in their homes, or go to other institutions if hospital care is required.

It is my opinion that more harmony and greater satisfaction would exist in the Government service and the Philippine General Hospital would handle more patients and be better off financially if the law could be modified so that Government people securing more than a definite medium-sized salary would be given the estimated value of medical services in addition to their regular salary and allowed to employ whatever physician and go to whatever hospital they saw fit. I feel very positive that under such conditions more Government patients would come to the General Hospital than come now; that they would be better satisfied with their treatment, and that the whole "esprit de corps" of the service would be improved.

CLINICAL RECORD DIVISION.

The work of this division is very satisfactory. There was a time in the early part of the year when the division was short of clerical help but this condition has been remedied, the records are up-to-date, the reports come out promptly.

During the year the international list of causes of death was made the official method of tabulating the hospital records. This system is perhaps the best one in general use and it is very satisfactory from the standpoint of vital statistics and tabulated reports. From a scientific standpoint, however, it is in many ways hopelessly inadequate and obsolete and does not give a very good index to records that are to be used for scientific purposes.

The records of this division show 6,732 completed cases during the year as against 7,252 last year. In 1913 there were 449 births; in 1912, 302. In 1913, 417 deaths and in 1912, 437. Total hospital days in 1913, 90,957; in 1912, 110,632¾. The average hospital days decreased in 1913 to 13.5 days as against 15.25 in 1912.

NON-GOVERNMENT PAY PATIENTS.

During 1913, the hospital cared for 691 pay patients exclusive of those in the Government service of which 209 were *General Hospital pay patients* and 482 *private pay patients* of physicians. Last year there were 775 pay patients, of whom 128 were General Hospital pay patients and 647 private patients. General Hospital pay patients therefore, during the year 1912, represented 16½ per cent of the total number of non-Government pay patients, and during the present year this percentage increased to 30¼ per cent. The decrease in the total number of private pay patients in the hospital is counterbalanced somewhat by the increase in General Hospital pay patients.

RECEIVING SERVICE.

A summary of the monthly reports from the officer of the day's office shows a total of 2,135 ambulance calls; ambulance accompanied by a physician 1,061 times.

During the year 1,174 patients were refused admission to the hospital; 212 because of chronic incurable diseases; 158 for other miscellaneous reasons. *Eight hundred and four deserving cases were refused admission because of lack of room.* Many of these persons were seriously ill; some of them had traveled from the provinces and many of them were patients whose health could have been improved by a stay in the hospital.

ELECTRO-THERAPEUTIC DEPARTMENT.

The statistical work of this division is shown in the appended table and more detailed workings are contained in the report of Mr. Lewey as follows:

"During the fiscal year 1913, the department cared for 1,799 patients, 863 had requests for diagnostic work, and the remainder were given various forms of electric treatments. In August of last year the interrupterless apparatus broke down and for several months the work had to be limited to the capacity of a small coil machine. A modern and very satisfactory Roentgen equipment was received from Germany and installed in April. The energy output of this machine surpasses the old apparatus and enables the shortening of exposures to a portion of a second, thereby saving the life of the tubes and eliminating the danger of X-ray burns.

"The same apparatus can be used for treatments. The summary of treatments given is: To Bureau employees, 807; private patients, 335; and charity patients, 657; total number, 1,799."

The electro-therapeutic department now is very well equipped and the character of the work produced, both in diagnosis and treatment, is excellent. During the year the scale of charges for work for private patients was increased to a point where the prices now are practically prohibitive for the average person in the Philippine Islands and as a result the amount of private work has decreased materially. It seems to me that the prices quoted in the present Rules and Regulations for work in this department would not be unreasonable in institutions of the better class catering to high-class patients only, in a country where the average personal income is greater than that of persons living in the Philippine Islands.

DEPARTMENT OF OBSTETRICS.

The hospital does not maintain an organized department of obstetrics. The charity obstetrical work of the institution is conducted by the department of obstetrics of the College of Medicine and Surgery, and the midwifery for Government patients and General Hospital pay patients is arranged by special detail from the hospital staff.

Tabulated reports of these combined services are shown at the end of this report.

There were 449 births, 386 living children and 63 stillbirths, against 322 births, 294 living children, and 28 stillbirths of the year before.

Of the 1913 records of births, 108 were official, 316 charity, 17 private pay, and 8 General Hospital pay patients. In 1912 there were 76 official, 222 charity; 21 private pay, and 3 General Hospital pay patients.

DEPARTMENT OF MEDICINE.

Dr. R. P. Strong resigned as chief of this department during the year, and his place has not been filled by permanent or temporary appointment.

The Chief of Staff has continued to discharge the duties of this position since Doctor Strong's resignation.

During the year the department of medicine handled 2,985 patients as against 3,469 of the year before. Further comparison of the work of the department for the two years 1912 and 1913 is as follows:

	1912	1913
Charity:		
Adult	1,462	1,130
Children	475	405
Government:		
Free	415	557
Pay	724	587
General Hospital pay	67	115
Private pay	326	194

The decrease in charity patients is due solely to the decrease in the number of beds allotted to the service because every bed in the charity service usually is occupied.

DEPARTMENT OF SURGERY.

During the year the department handled 2,324 patients against 2,438 last year. Further classification of this service is as follows:

	1912	1913
Charity:		
Adult	1,622	1,323
Children	34	125
Government:		
Free	281	294
Pay	271	326
General Hospital pay	44	70
Private pay	186	186

DEPARTMENT OF DISEASES OF EYE, EAR, NOSE, AND THROAT.

During the year the department handled 706 patients, against 779 last year. Further comparison of the work for the years 1912–13 is as follows:

	1912	1913
Charity:		
Adult	464	440
Children	10	69
Government:		
Free	48	62
Pay	142	43
General Hospital pay	10	13
Private pay	105	79

SUMMARY OF ALL DEPARTMENTS.

During the year 1913, 6,732 patients were taken care of in the hospital, as against 7,252 in 1912. Further comparison of the work for the two years is as follows:

	1912	1913
Charity:		
Adult	3,969	3,417
Children	519	599
Government:		
Free	772	999
Pay	1,217	1,026
General Hospital pay	128	209
Private pay	647	482

Summary of the year's work by services.

	1912		1913	
	Patients.	Visits.	Patients.	Visits.
Hospital service	7,252	(a)	6,782	(a)
Office consultation division	(a)	[b]8,368	(a)	25,589
Free Dispensary	25,171	64,673	26,717	66,993
Out-patient visiting service	213	(a)	512	(a)
Obstetric out-patient service	(a)	(a)	879	6,030
Electro-therapeutic division	(a)	2,463	(a)	......
Ambulance service (not including patients transferred from hospital	(a)	(a)	563	563
Total	32,636	75,504	35,403	99,175

[a] Not stated.

[b] For eight months.

In addition to the above there were 23,116 dressings in the department of surgery and 19,110 dressings in the department of diseases of eye, ear, nose, and throat in which no division was made between outside patients and those in the hospital.

GENERAL DISCUSSION AND RECOMMENDATIONS.

In general the organization of the hospital is in better shape than it was a year ago and there has been decided improvement in efficiency in the care of patients, in preparation of records, in general deportment of the personnel, and a better "esprit de corps" than formerly has existed in the institution.

PHILIPPINE TRAINING SCHOOL FOR NURSES, PHILIPPINE GENERAL HOSPITAL.

[Extract from the annual report of the superintendent.]

At the graduation exercises of April 4, 1913, the degree of graduate nurse was given to 26 young men and 27 young women who graduated under the two and one-half years' course. Of the male nurses 8 had finished their studies in October, 1912, but were not given their degree until the exercises of 1913, 7 of these remained with the training school to complete the six months' graduate course of study, and at the time of the awarding of diplomas in April, 1913, had completed their graduate studies.

Positions were found at once for these young men. One was detailed to the Baguio Hospital division; 1 to the Philippine General Hospital; 1 to the hospital at Butuan; 1 to the Southern Islands Hospital at Cebu, and 3 resigned to accept positions with the Mindoro Sugar Plantation Company and the Calamba sugar estate. The eighth was given an appointment as assistant instructor to the male pupils of the Training School for Nurses, and so remained in the service without taking the additional training.

Of those who completed the regular course in April, 1913, 1 male nurse was detailed to the Bureau of Public Works laborers' camp hospital at Surigao, and another resigned to take a position in the hospital of the Calamba sugar estate; 2 female nurses were detailed to the Southern Islands Hospital at Cebu; another resigned to take up private nursing in her province, and a third left the service to accept a position with the nursing force of the Mindoro Sugar Plantation Company. The remainder returned to the hospital to complete the six months' graduate course.

The work of these young men and women during their course of study has been very commendable. They have performed cheerfully and without complaint all of the arduous duties attendant to the study of their profession and have evinced a desire to learn which has made their instruction a pleasure to all their instructors.

There now remain two classes to graduate under the old two and one-half years' course; with the class entering in September, 1913, the course is extended to three and one-half years' study, and it is hoped before long that four full years will be required before a diploma is granted, in order that the nurse may have the benefit of more practical work before graduation.

A large part of the credit for the success of the past years' instruction in the Philippine Training School for Nurses is due to the hearty coöperation and support of the Medical School of the University of the Philippines, and officers of the Bureau of Health and Bureau of Science. The medical men of these Bureaus have given the following number of hours of instruction: Medical School, 776 hours; Bureau of Health, 1,160 hours; Bureau of Science, 64 hours. These lectures have been given freely and with a desire to aid in the practical training of the students.

The following course of instruction was planned for the year just ended and given according to schedule submitted:

During the preliminary course of instruction the following subjects were taught: Anatomy, physiology, general nursing, massage, hospital housekeeping, practical etiquette, sewing, personal hygiene, English, weights and measures, keeping hospital records, ward practice, dietetics, hospital economics, hospital etiquette, and athletics.

During the junior year the following subjects were taught: Anatomy, physiology, materia medica, pharmacology and pharmacy, bacteriology, urine analysis, operating technique, English, obstetrics, massage, minor surgery, genito-urinary nursing, infant feeding, genito-urinary surgery, chronic diseases, practical nursing, and dietetics.

During the senior year the following subjects were taught: English, nursing ethics, sanitation, obstetrics, dispensary nursing, infant feeding, children's diseases, nervous and mental diseases, surgery, operating-room technique, practical anaesthesia, general medicine, diseases of the eye, ear, nose, and throat, electro-therapeutics, and practical nursing.

PRISON SANITATION DIVISION.

[Extract from the report of the chief, Bilibid hospital division.]

Following the usual procedure, the birth and death rate are discussed first and the latter is regarded as an index to the effectiveness of sanitary effort; but since so many of the prisoners enter the institution with active or latent tubercular lesions, the mortality of Bilibid cannot be taken as the basis for accurate deductions.

It cannot be expected that the institution, though a sanitary prison, will not have a normal death rate; but if the deaths from tuberculosis were eliminated, the mortality rate would be surprisingly low. Nor can the deaths from tuberculosis be attributed to the prison life, except in so far as the health of the inmates in influenced by a certain degree of overcrowding incident to any kind of institutional life. When it is taken into consideration that at least 60 per cent of all Filipino prisoners that enter Bilibid are more or less afflicted with tuberculosis, and the mortality figures are carefully studied in relation to this estimate, it becomes evident that more patients are cured or partially cured of the disease than die or are discharged in an active tuberculous state.

The next most important cause of death after tuberculosis is gangrene of the lungs which was probably preceded by pneumonia, having its predisposing cause in an incipient or latent tubercular condition. It should be taken into consideration that about half of the prison population is engaged in outside work in different provinces and more exposed to infection than those within the walls.

Before concluding the subject of mortality rate, which in the case of Bilibid is more nearly an index to the tubercular than to the sanitary state of the inmates of the institution, it should be said that while the great majority of the prisoners are better fed, better quartered, and live under more favorable sanitary conditions than they had been accustomed to before they were committed, their confinement as a general rule is not conducive to vital resistance which in all races is subject to psychological environment.

During the year there have been several births in the prison. The mothers in all cases were short-term prisoners sentenced for playing *panguingue* or some similar offense against the law. It would be better if there were some other place of correction to which pregnant women having short sentences could be committed.

IMPROVEMENTS.

The year has brought many improvements, notable among which are new quarantine buildings with wards for the treatment of dangerous communicable diseases. Formerly all diseases of this character were transferred to San Lazaro Hospital, but owing to the expense of extra guards and the trouble imposed both upon the prison and the hospital, patients suffering from quarantinable diseases are now cared for within the walled compound.

Another improvement recommended in the annual report of this division for last year which has been appropriated for is a new hospital kitchen which, when constructed, will be a valuable acquisition to the present facilities.

The main building has been improved by the addition of an upper roof, but the windows are still unsatisfactory and need repairing and readjustment with reference to the elevating mechanism so that better ventilation may be secured.

A morgue apart from the hospital, of ample size and properly equipped, is urgently needed and it is hoped that some way will be found to supply this need as soon as practicable. The present morgue is opposite the operating room and near enough to the wards to be objectionable.

Prison shops and other buildings.—The condition of the shops to which attention was called in last year's report has been improved. New cement floors have been constructed and the facilities for ventilation enlarged. Other improvements are in progress or in contemplation which, when completed, will be very helpful to the cause of sanitation.

ROUTINE SANITARY MEASURES.

The established measures of prison sanitation have been kept up.

The grounds are kept clean and dry and when it is dusty they are sprinkled several times a day. Petroleum sprinkling should be resorted to as a prophylactic measure against tuberculosis, though the necessity for this precaution is in a great measure obviated by the enforced usage of concrete cuspidors with removable metal receptacles and covers. Wooden cuspidors are in use throughout the prison buildings; they should be replaced by metal cuspidors which are more easily cleaned and more sanitary in every way. All cuspidors are cleaned and disinfected daily after which clean wood shavings are placed in them and used for twenty-four hours.

Inspections.—Daily inspection of the sanitary condition of the prison is a routine measure. Weekly inspections are made every Sunday morning of the entire prison including buildings, grounds, work shops, kitchen, and the hospital. During this inspection the prisoners are closely observed for evidence of communicable diseases.

Disinfection.—The disinfecting squad is still maintained and in addition to special service in the case of known infection they are daily engaged in routine prison disinfection, which includes the walls, floors, bunks, bedding, and personal equipment. All new prisoners and their clothing are subjected to disinfection. Disinfection of the hands is enforced as the prisoners leave the shops in which they are employed and as they come from the toilets. The prison schools and barber shops are inspected, cleansed, and disinfected every day.

Treatment of new arrivals.—All new arrivals and also prisoners returning from outside stations are subjected to disinfection and quarantine detention for five days. During the quarantine period each prisoner is treated for intestinal parasites, if present, and carefully examined for disease and remediable defects and appropriate treatment given in the hospital before they are assigned to brigades.

The five days of quarantine detention are extended in cases when it is known or suspected that the prisoners have been exposed to the dangers of communicable diseases having a longer period of incubation.

All new prisoners are vaccinated and frequent vaccinations are performed in the brigades.

Garbage and rubbish disposal.—All prison garbage is deposited in barrels and kept in screened sheds with cement floors until removed by the contractor. The garbage sheds are kept clean by washing and disinfection and are never offensive. The rubbish is used in filling the lowlands around the prison and when deposited it is covered daily by a layer of earth of a prescribed thickness and the whole disinfected and overspread by a layer of coal oil so as to prevent fly breeding. Much of the low area, especially that to the east of the prison, either has been filled in or is now being filled in. This work is among the most important sanitary improvements that are to be recorded in this report.

SPECIAL CONDITIONS.

Flies and vermin.—The fills undertaken by the prison have been responsible for an occasional visitation of flies, occurring only when the workmen relax in the slightest degree in vigilance and effort to guard against the possibility of flies finding a breeding place in the rubbish that is dumped in the low places.

When mosquitoes appear, special inspections are made to discover their breeding places, and while such places are frequently found there are other cases in which it is evident that the source is outside of the prison grounds. The usual sanitary measures are employed against these pests with excellent success.

The bedbug problem has been solved by using steel-frame bunks and by disinfecting the bunk bottoms every week with steam.

Drainage.—The drainage of the prison grounds is good, the storm water being carried off by open surface drains leading to an estero. The drains are swept and flushed daily and kept free from all rubbish. Drainage from the closets, urinals, and sinks has its outlet into the city sewers.

Water supply.—The water used for drinking purposes is supplied from the prison distilling plant and is served to the different brigades in locked metal cans provided with faucets and is withdrawn in individual drinking cups. The water containers are scalded and thoroughly cleansed daily as a precaution against infection.

Amœbæ, which early in the year were found in the drinking water after distillation, were gotten rid of by thoroughy cleaning the condensing tank which had collected a layer of mud in which they developed. The pipes which had become filthy were also cleansed. It is recommended that an artesian well be sunk in the prison grounds to furnish the drinking water. It is believed that such water would be more wholesome than distilled water which loses certain salts in the process to which it is submitted.

Female prisoners.—Female prisoners are, so far as the facilities will permit, taught lace making and embroidery and the elements of housekeeping. Additional room is needed for this class of prisoners in order that their places of instruction and employment may be separate and apart from their living quarters.

Personal hygiene.—All prisoners who are not too ill are required to bathe every day and are also drilled in a system of setting-up exercises. Hospital patients, who are able to do so, exercise in the hospital grounds. Each prisoner is required to change clothing daily, the soiled clothing is disinfected by steam at the prison laundry, washed, ironed, and returned. When the exigency of the case so demands, prisoners are required to bathe and put on a clean suit immediately after leaving their work. The soiled clothing being sent to the laundry at once so as to prevent its accumulating in the brigade quarters.

Hospital equipment.—Gradual additions are being made to the hospital equipment and with the present facilities all classes of surgical operations are undertaken. There should be two more surgical wards constructed in order that all operative cases could be treated under proper environments. One ward would be occupied exclusively by pus cases and the other by the clean cases.

Conclusion.—The year has been a successful one. Harmony and coöperation have characterized the relations of the prison authorities and the employees of this division and for whatever progress has been made and whatever success attained due credit must be given to the Director of Prisons and his subordinates for the assistance that they have rendered for the betterment of sanitary conditions and for the general welfare of those whom the mutability of life has placed under their charge.

PROPERTY DIVISION.

[Extract from the annual report of the chief of the division.]

During the year, 555 general requisitions were received and filled from the following sources:

Provincial requisitions	132
Health stations	159
Assistant Director's office	6
Central Office	12
Statistical division	10
Sanitary engineering division	15
Board of medical examiners	3
Board of pharmaceutical examiners	3
Committee for the Investigation of Infant Mortality	6
Philippine General Hospital	49
San Lazaro Hospital division	7
Baguio Hospital division	15
Culion leper colony division	21
Southern Islands Hospital division	14
Bontoc Hospital division	18
Prison sanitation division	11
San Juan Tuberculosis Hospital	10
Butuan Hospital division	8
St. Paul's Hospital	5
Central Free Dispensary	12
St. Luke's Hospital	13
Iwahig penal colony	15
Santo Tomás University	4
Sibul Springs Sanatorium	7
Total	555

From other Bureaus and individuals there were received and filled 155 requisitions for supplies which were paid for by the requisitioners.

To fill above requisitions, 211 requisitions for general supplies were prepared and forwarded to the Bureau of Supply, 286 requisitions to the Bureau of Printing covering printed matter required by the Bureau, the balance being filled from stock or purchased from other Bureaus.

Fifty-six requisitions for commissary supplies were received from the following sources:

Philippine General Hospital division	13
San Lazaro Hospital division	13
Culion leper colony division	16
Baguio Hospital division	13
Southern Islands Hospital division	1
Total	56

Requisitions for commissaries forwarded to Bureau of Supply, 65.

Vaccine report.

	Units.
On hand July 1, 1912	35,500
Received during the year	2,365,000
Total	2,400,500
Issued during the year	2,365,800
Remaining on hand June 30, 1913	34,700

During the year 243 shipments were made by boat and 107 by rail requiring 350 bills of lading.

Simple remedies packages Nos. 1, 2, and 3 were issued as follows:

	I.	II.	III.
On hand June 30, 1912		14	6
Manufactured during the year	227	105	49
Total to be accounted for	227	119	55
Issued during the year	206	114	53
Remaining on hand June 30, 1913	21	5	2

Inter-Bureau vouchers and bills were received from the following sources:

Bureau of Supply	907
Bureau of Public Works	3
Quarantine Service	1
Bureau of Printing	1
Bureau of Science	5
Bureau of Prisons	7
Bureau of Education	2
Bureau of Agriculture	1
Bureau of the Treasury	3
University of the Philippines	1
Fire department, city of Manila	1
Open market	166
Total	1,098

DIVISION OF SANITARY ENGINEERING.

The division of sanitary engineering has supervisory control over all structural sanitation in the Philippine Islands. It concerns itself principally, however, with work in the city of Manila and acts more in a consultory and advisory capacity in provincial and municipal sanitary projects.

The following quotation is made from the annual report of the chief of the division:

"*Study of antiplague measures in Hongkong.*—During a visit to Hongkong, a study of conditions existing in that city was made and antiplague ordinances studied.

"*General standards of building construction.*—The standards of sanitary building construction are constantly being raised—better light, ventilation, and drainage are being secured to such an extent that new or nearly new buildings will require very little structural sanitary attention for years to come.

"*Supervision of building operations.*—Supervisory control has been continued over all private and public building operations with especial reference to light, ventilation, and drainage; no building projects of any sort in the city of Manila being approved for construction until checked by this office.

"*Routine work in Manila.*—In Manila 1,161 orders for the correction of insanitary structural conditions of buildings were complied with; 503 buildings were connected to the sanitary sewer; 2,381 projects for building operations were acted upon; 49 persons were prosecuted for failure to comply with sanitary orders; 117 design and drafting projects were undertaken with reference to general Bureau of Health matters. Special efforts have been exerted with reference to the construction of rat-proof houses and the elimination of double partitions, walls, ceilings, etc., from existing houses and no construction is now permitted except in accordance with approved rat-proof methods.

"*Coöperation.*—Acknowledgement should be made of the hearty coöperation of all departments and officials of the city of Manila in all matters pertaining to this office. This is especially true with reference to the office of the city engineer.

"*Provincial.*—In the provinces efforts are being made to secure reports of structural work in progress. Several inspection trips were made to the Culion leper colony. Six weeks were spent in additional surveys for a topographic map of the interior of Culion Island, 150 square kilometers having been mapped to date, including 7 square kilometers already reported in and around the town of Culion. Trips were also made to the Mariveles Quarantine Station; Antipolo; Puerto Rivas, Bataan; and Mangarin, Mindoro."

SAN LAZARO HOSPITAL DIVISION.

[Extract from the annual report of the chief of the division.]

It is believed that the past year has been a successful one; the work of the different departments, including those for insanity, leprosy, tuberculosis, bubonic plague, varioloid, diphtheria, and other acute communicable diseases, and the morgue, crematory, and laundry has been carried on without friction.

During the year the morgue has been practically rebuilt, and now appears to be arranged satisfactorily.

All of the bars on the windows of the male insane ward have been reinforced.

A fountain has been erected in the yard near the main gate and nearly all of the drives have been bordered with foliage plants. A number of royal palms, secured from the city of Manila, have been set out in different portions of the grounds.

The main office and entrance have been painted, and the arrangement of the office otherwise improved as to furniture and other appointments.

It is thought that the appearance of the grounds has improved more in the past year than during any recent equal period.

INSANE DEPARTMENT.

There are now about 300 patients in the department for the insane, and of these nearly one-half are of the criminal type.

As to classes of insanity, among the cases observed—about 1,000—the following have predominated:

In the so-called pure insanities, among the simple insanities, the following forms have been observed in about the order named: Simple mania, terminal and primary dementias, simple melancholia, and senile dementia.

In that class associated with demonstrable organic brain changes, there have been paretic dementia, and one case of the rather rare delirium grave or acute delirium.

Under the toxic neuroses has occurred considerable alcoholic insanity in Americans, and in the natural neuroses a few cases of hysterical and epileptic insanity.

In the class representing a single order independent of the neuroses there have been a number of cases of paranoia, besides the usual cases of arrested development.

In the complicating insanities have occurred puerperal mania and mania following and complicating tuberculosis.

LEPER DEPARTMENT.

The leper department of this hospital is now used more or less as a collecting station where cases are confined for diagnosis preparatory to being sent to Culion. Two patients have recently been discharged on probation, having been negative microscopically and clinically for leprosy for about two years. They have been treated with chaulmoogra oil given hypodermically in a combination suggested by Dr. Eliodoro Mercado, house physcian. The prescription is as follows:

Chaulmoogra oil	60 c. c.
Camphorated oil	60 c. c.
Resorcin	4 gm.

Mix and dissolve with aid of heat, on water bath, and filter.
Dose, 1 to 5 c. c. every eight days, hypodermically.

TUBERCULOSIS DEPARTMENT.

In the tuberculosis department a very large number of cases have been handled; no case of tuberculosis seeking admission has been refused. This department furnishes a refuge for unfortunates who heretofore have had no place to go and undoubtedly does much good by reducing the number of centers of infections.

BUBONIC PLAGUE.

Cases of bubonic plague have occurred from time to time during the year, the most having been in October, 1912, when there were 22. Eight of the cases were among Chinese, 1 was a Caucasian, and the rest, some 50 or 60 cases, were Filipinos. Only a few females have been attacked. About one-half of all cases were young people of 25 years of age or under.

As to mortality, of the first 34 cases found living about 20 per cent recovered, which is considered to be a fairly good result when the severity of the disease and the fact that many cases are admitted in a dying condition are taken into consideration.

DIPHTHERIA.

The results from the administration of antitoxin in cases of diphtheria have been uniformly good, when the cases were brought to the hospital in time.

VARIOLOID.

Not nearly as much varioloid has been admitted as during the previous fiscal year, but the types have been the same.

MISCELLANEOUS.

Among the other diseases treated during the year there have been tetanus, mumps, measles, various skin diseases, observation for hydrophobia, etc.

A good many opium and alcohol cases are handled here each year, and the treatment used is that of the belladona-hyoscyamus mixture, with thorough purgation. Judging from reports this treatment is successful, and the patients invariably leave the hospital in good condition, and, they say, with good intentions for the future.

Many autopsies have been held during the year, including the cases which died of plague.

About two or three bodies a month are cremated at San Lazaro, racially representing the Japanese, Hindus, and Americans. Chinese and Filipinos do not cremate their dead. The crematory needs repairing and it is understood that this is to be done shortly.

The laundry has run regularly, there having been no break downs or delays. About 2,500 gallons of disinfectant has been made in the plant attached to the laundry.

SUGGESTED IMPROVEMENTS.

The following improvements being urgently needed are recommended:

A new kitchen; a new dining room for the male insane; an additional concrete ward for dangerous communicable diseases, remodeling of the existing structure; rewiring where it is needed of the electric lighting system of the main building; general repairs to the baths in the leper department; and finally the erection of a general storeroom and an office building requested in a former communication.

STATISTICAL DIVISION.

The present Bureau of Health for the Philippine Islands was evolved out of the old Board of Health for the Philippine Islands.

The statistical division of the present organization is the successor of the office of the secretary of the former board. In fact the chief of this division is the former secretary.

This division is charged with the collection and classification of all vital statistics and the issuance of transcripts of Bureau of Health documents pertaining to vital statistics.

It also compiles the quarterly reports issued by the Bureau and the statistical portion of the annual report.

In addition to these general duties it has charge of the recording of births and deaths and the issuance of the burial and disinterment permits, and transfer of the dead for the city of Manila and keeps a report of marriages for the Bureau.

The work of the statistical division is growing in quantity and importance every year in keeping with the progress of this character of the work the world over.

SOUTHERN ISLANDS HOSPITAL DIVISION.

[Extract from the annual report of the chief of the division.]

The period embraced in the report completes the first three months of operation, during which the Southern Islands Hospital has ministered to the needs of 424 patients, of which number 114 were treated in the hospital and 310 in the out-patients' clinic, the greater number being surgical cases.

The total number of visits to the hospital clinic by out-patients was 1,239; the total number of prescriptions filled gratis was 332; the total number of surgical dressings during the period was 1,967, of which 1,069 were in the free clinic and 888 for hospital cases; the total number of major operations was 15 and of minor operations, 64.

Upon the opening of the hospital on April 1, 1913, the Municipal Hospital of Cebu and the hospital of the Philippine Railway closed their doors, transferring all their patients to the Southern Islands Hospital. Since the above date, cases have been admitted from the Islands of Leyte, Negros, Mindanao, Jolo, Bohol, and from the many municipalities of the Province of Cebu; in addition to these, Government employees and those connected with the commercial firms of the city have taken advantage of the accommodation and treatment obtainable at the new institution.

Of the number of cases treated in the hospital, 81 were charity cases, this with the number treated in the free clinic makes the number of patients treated without charge during the three months aggregate 391, thus 92 per cent were indigent patients.

The number of cases of all classes treated in the hospital and in the free clinic is gradually increasing as the benefits of the hospital become more widely appreciated, and doubtless the report for another year will show a large proportionate increase in the number of patients.

Maintenance.—The average cost of subsistence of the nursing staff and patients for the quarter just passed was ₱0.74 per day.

Buildings and grounds.—While the first endeavor has been to establish the hospital in good running order, recently some attention has been paid to the laying out of the grounds immediately contiguous to the hospital. The main circular driveway with an entrance of 11½ meters has been constructed, having cement curbs on each side; garden beds have been prepared for the reception of trees, shrubs, and small plants which are to arrive in the near future; preparation is being made for placing all wires carrying electric current and leading to the hospital building in conduits, inasmuch as the city has ordered all poles on the main street to be down within a year; a new road has been constructed from Calle Juan Luna to the rear entrance of the hospital so that supplies may be delivered without obstructing the main entrance to the hospital.

Construction of a hospital for dangerous communicable diseases will be commenced in the immediate future, plans being drawn and an appropriation of ₱30,000 being available for this building.

An appropriation is already available for a service building, the plans of which are now in course of preparation; this building will contain in addition to quarters for employees, storerooms, laundry, fuel rooms, etc. The work on this building will doubtless be commenced within a few months. Pending its construction and completion, a new residence on the boulevard, directly across from the hospital, has been rented; in the latter provision has been made for storerooms; quarters for the superintendent, for the pharmacist, and for male nurses have also been provided therein. Two rooms in the hospital are also being temporarily utilized as storerooms.

The damage done by the typhoon of October 15, 1912, to the roof and windows of the hospital has been repaired, and a temporary laundry has been erected which handles all of the hospital laundry.

BOARD OF DENTAL EXAMINERS.

[Extract from the annual report of the secretary-treasurer.]

During the fiscal year the board of dental examiners issued nine certificates to cirujanos ministrantes in dentistry and one certificate as doctor of dental surgery and turned into the Insular Treasury the sum of ₱110 as fees received.

The board also reports three prosecutions for the illegal practice of dentistry.

In Manila there are 4 civilian American dentists engaged in practice as compared with 12 in 1903.

BOARD OF PHARMACEUTICAL EXAMINERS.

[Extract from the annual report of the secretary-treasurer.]

The board has held two examinations—the first on July 2, 1912, at which 60 applicants presented themselves, and the second on January 7, 1913, at which 51 applicants were present, making in all 111 applicants for the year. Of this number, 7 attained the required average and received certificates.

There have been issued during the year 47 apprentice certificates, 18 Chinese druggist certificates, and 25 temporary certificates without examination.

There have been collected during the year from all sources the sum of ₱3,234. Of this amount, ₱1,360 are examination fees for the examination to be held on July 1, 1913.

Collected during the year	₱3,234.00
Insular Treasurer's receipts	3,234.00

The following are the salaries and fees paid this board from the funds of the Bureau of Health:

Salary of secretary-treasurer	₱300.00
Fees for two members for 111 applicants examined, at ₱4 each	888.00
Total	1,188.00

The board of pharmaceutical examiners is composed of Hugo Salazar, L. Ph., president; Manuel Yamson, L. Ph., member; and Andres Garcia Mayoralgo, L. Ph., secretary-treasurer.

BOARD OF MEDICAL EXAMINERS.

[Extract from the annual report of the secretary-treasurer.]

The board of medical examiners consists of Dr. A. P. Goff, president; Dr. Miguel A. Velarde, member; and Dr. C. E. Norris, secretary-treasurer.

The board held examinations during the year as required by law. Sixty-seven applicants for registration as doctors of medicine and licentiates of medicine were examined, 12 of this number failed to obtain the required average or passing grade; 21 applicants for registration as cirujano ministrante were examined and 5 of this number failed to obtain the required average. Five doctors of medicine, graduates of the University of the Philippines, were registered in accordance with Act 1632.

Registrations were made as follows:

Doctors of medicine	19
Licentiates of medicine	41
Cirujano ministrantes	15
Midwives	1
Total	76

The following amounts were collected and deposited in the Insular Treasury:

	Number.	Amount.	Total.
Doctors of medicine	19	₱30.00	₱570.00
Licentiates of medicine	41	30.00	1,230.00
Cirujanos ministrantes	15	10.00	150.00
Midwives	1	10.00	10.00
Total			1,960.00

The expenditures were as follows:

Examination fees to Doctor Velarde at the rate specified in Act 310, ₱377.00.

The president and secretary-treasurer being employees of the Government received no salary.

EXTRACTS FROM ANNUAL REPORTS OF DISTRICT HEALTH OFFICERS.

EXTRACTS FROM THE ANNUAL REPORTS OF THE RESPECTIVE DISTRICT HEALTH OFFICERS.

AGUSAN PROVINCE.

During the year there were 33,729 vaccinations performed. The population of the province is estimated at about 75,000. It is proposed to vaccinate the balance of the population during the coming year. A few years ago it was dangerous to send vaccinators to this province. There has been no smallpox in the subprovinces of Butuan and Bukidnon. The local epidemic in the valley of the Agusan has been completely eradicated.

Although the Province of Agusan is considered "wild," the usual sanitary procedures are being enforced by having the municipalities adopt better systems of sewage and garbage disposal, improved methods of street cleaning and drainage, and the safeguarding of the drinking water supply.

The question of filling in the lowlands has been given as much attention as was possible under the circumstances and measures have been taken against the mosquito pest.

In Butuan, the capital, is situated the Butuan Hospital which operates a dispensary service for the poor. In other municipalities this work is attended to by sanitary inspectors where there is no health organization.

In all of the outlying districts better sanitary conditions obtain than heretofore and the health of the people in all the municipalities has been satisfactory.

Systematic vaccination and the distribution of 85,650 four-grain capsules of quinine have had much to do with the improvement in the public health. What is needed especially is artesian wells.

The estimated birth rate has been 12 per 1,000 of population in excess of the death rate.

ALBAY.

The birth rate in this province is much higher than the death rate.

During the year about 45,000 vaccinations were done and 45 lepers sent to Culion.

Albay has been divided into health divisions under Act 2156. Sufficient time has not passed to state just how successful the new organization is going to prove.

Artesian wells are now being driven in this province, and it is hoped we will have good drinking water in every municipality before the end of another fiscal year.

Modern concrete markets are to be constructed in Legaspi, Daraga, Guinobatan, Ligao, Oas, Tabaco, and Tiwi.

AMBOS CAMARINES.

Modern concrete markets are to be constructed in Bato, Nabua, Iriga, Nueva Caceres, and Tigaon.

The death rate seems to be steadily declining.

During the year about 27,000 vaccinations were performed and 23 lepers sent to Culion.

The principal municipalities of the province are supplied with artesian wells. All are pump wells with one exception. The provincial board intends during the coming year to bring in one of the largest well-digging machines in an attempt to get flowing water. The pumps that were installed were unsatisfactory and it is an endless task to keep them in repair.

The health organization in Camarines is unsatisfactory, there being but one president of a municipal board of health who is a licensed physician. On account of the numerous small, isolated municipalities and their poor financial condition, the province has not been organized under Act 2156. It is hoped that during the coming year an organization can be effected.

ANTIQUE.

Barring the dysentery outbreak during the third quarter of 1912, and the occurrence of a few sporadic cases of measles in isolated foci during the month of August, 1912, and in February and March, 1913, the fiscal year just ended was comparatively free from dangerous diseases, no cases of cholera, plague, or smallpox having been registered up to the writing of this report. The health organization of the province has been organized under the provisions of Act 2156, and only the difficulty of bringing qualified physicians to Antique has prevented us from having the new health organization in full working order. On the other hand, it has been brought home to the mind of the people that it is not merely an elaborate organization that is needed, but also coöperation on their part, that high-sounding sanitary ordinances do not insure improved sanitary conditions nor immunity from diseases or epidemics if they are not properly enforced by the authorities concerned and conscientiously followed by the public for whose benefit they are framed.

Taken as a whole, the fiscal year just ended has been one of the best in the history of the province from the viewpoint of the public health and has been productive of certain positive and practical results from the sanitary standpoint.

At the beginning of the fiscal year and, in fact, through August and September, dysentery was prevalent in all the municipalities of the province, the worst sufferers being the municipalities of Culasi, Sibalom, Patnoñgon, San José, Tibiao, and Bugason. Most of the cases occurred among the children. No more than 2 per cent of the deaths occurred in adults. The actual number of cases can never be learned, but the mortality was high, especially among the children of the poor and among cases registered in towns far from the provincial capital and in barrios well isolated and placed inland. The cases brought under my notice lingered for two or three weeks before fatal termination. The majority of these deaths could have been prevented with proper medication, nursing, and feeding. The following table will give an idea of the extent of the outbreak in the province:

Deaths from dysentery in Antique Province, third quarter, 1912.

Municipalities.	July.	August.	September.	Total.
San José	22	27	13	62
Dao	3	9	7	19
Sibalom	45	51	10	106
San Remigio	4	1	2	7
Patnoñgon	24	43	33	100
Bugason	14	11	4	29
Valderrama	7	0	0	7
Laua-an	8	5	2	15
Tibiao	11	15	0	26
Culasi	46	59	11	116
Pandan	4	7	0	11
Total	188	228	82	498

The causes enumerated below will throw light on the course and peculiarities of the Antique outbreak:

1. The weather conditions—wet, high degree of humidity; consequence of exposure to elements.
2. Drinking of impure water from surface wells and rivers contaminated by rain water carrying impurities.
3. Poor class of food—scarcity of staple foods during the quarter; price of rice very high; the common people were obliged to feed on green corn, tubercles, and almost anything they could obtain.
4. Ignorance of the masses of elementary rules of personal and domestic hygiene; babies and children fed on unsuitable foods; improper care and nursing of the sick.
5. Dearth of proper medicines and medical men in the field.
6. Deficient sanitary organization in localities affected with dysentery.
7. Natural conservatism of the people—they are refractory to modern ideas of hygiene, and follow with misgivings and doubts, if at all, instructions and advice given them.

That the outbreak subsided toward the end of September was because the natural causes giving rise to the epidemic had ceased to work and no fresh material for infection was available. The measures, both prophylactic and curative, carried out for its eradication met with only partial success.

Of the varieties of the disease, it is believed that fully 50 per cent of cases were of the simple catarrhal form, the balance being divided between the amœbic and bacillary forms.

An outbreak of measles was discovered at San José, during the second week of August. The first case was traced back to Iloilo. All cases observed were of benign nature, and the few fatalities registered were due to complications. The outbreak gradually died out and by October 1 it had entirely disappeared. A small outbreak was reported from Culasi in February, 1913, and one, on a larger scale, broke out in San Remigio about the middle of March and lasted up to the end of April. The usual measures were taken in connection with these outbreaks and they were promptly put under control.

A few sporadic cases of chicken pox were observed in San José, Sibalom, Culasi, and San Remigio between January and May, 1913, but all cases registered were of benign character.

DISEASES MOST PREVALENT IN THE PROVINCE.

Pulmonary tuberculosis headed the list during the year and exacted the heaviest toll of deaths. Dysentery comes next, the diseases named below following closely in the order given: Malaria, gastro-intestinal disorders of children, infantile convulsions, diarrhea and enteritis (over 2 years), and accidents of labor. The population of the province is estimated to be 135,492, a gain of 1,843 during the year.

The province was organized under the provisions of Act No. 2156, the first appointments being made early in February.

There were three leper collections during the year; a total of 18 lepers were taken to Culion.

A sick-ward annex was built in July in connection with the provincial jail for the benefit of the sick inmates of the institution. A new water tank with spigot was provided. Forks and spoons were issued to the prisoners.

Over 140 applicants for the various grades in the municipal police force were examined during the year; 23 applicants for the provincial constabuiary companies; 4 for various civil-service posts; and 2 for scholarships in the Philippine Training School for Nurses, Manila.

To this date no concrete markets have been built in the province. Loans have been applied for to the Insular Government for the building of concrete markets in the municipalities of San José and Sibalom.

No artesian wells have been drilled in the province. The provincial capital should be provided with at least four artesian wells to insure the inhabitants a pure water supply. As the finances of the rest of the municipalities get better they should likewise be provided with them.

The total number of vaccinations performed during April, May, and June was 17,948.

BATAAN, CAVITE, AND RIZAL.

Fourth district.

The year has been free from cholera and plague, though on account of the latter being present in Manila anti-plague measures were instituted.

There has been considerable bacillary dysentery, the number of deaths from this disease being 243.

During the year five cases of diphtheria occurring in Cavite were reported and taken care of by the San Lazaro Hospital, Manila.

This district, being near Manila, has shown more than usual interest in the sanitary regulation of foods, tobacco factories, cockpits, markets, and in the extension of the artesian well movement.

The question of mosquito extermination has also been taken up wherever means were available.

BATANES.

The Batanes Islands, formerly a part of Cagayan Province, now constitute the new Province of Batanes. The island of Formosa which is relatively close to them has made an impression on the inhabitants so that they are a different class of people with a language of their own, into which Chinese and Japanese words have filtered.

For a part of the year adverse winds prevent shipping communications; thus isolated, the Batanes constitute a country of themselves and many of their inhabitants have but a vague knowledge of the lands beyond the seas.

A provincial sanitary inspector looks after the interests of the public health and renders such medical services as he can bestow directly and by the distribution of simple remedies among the people.

From the report of this official the following extracts are taken:

"The population on January 1, 1913, consisted of 8,296 Filipinos; 2 Americans, and 8 Europeans, a total of 8,306.

"The deaths and births by townships were as follows:

Towns.	Population.	Deaths.	Death rate per 1,000.	Births.	Birth rate per 1,000.
Basco	2,252	42	18.36	74	32.88
Mahatao	1,087	20	18.41	39	36.45
Ivaná	1,123	23	20.49	34	30.11
Uyugan	850	13	15.52	33	38.84
Sabtang	1,694	25	14.76	45	24.96
Itbayat	1,300	22	16.93	40	30.63
Total	8,306	145	17.46	265	28.83

"Of the 145 deaths 47 were of children less than 30 days old; 18 between 60 and 70 years; 10 between 70 and 80 years; 4 between 80 and 90 years; and 1 between 90 and 100 years of age."

"The mortality in the principal towns for the period covered by this report was considerably less than for any preceding year of which there is a record.

There are 49 blind, 11 deaf, 27 mentally defective, and 49 physically defective persons in the province who, for the most part, live on the charity of their relatives or friends.

"The province has been free from smallpox, but not withstanding this fact there have been 485 persons vaccinated."

The health office endeavors to make a record of all transactions and occurrences that have any connection with vital statistics. Births, marriages, deaths, and all facts pertinent to information of this character are registered. Many compilations of records are made that are not required by the letter of the Bureau of Health regulations.

BATANGAS.

The Province of Batangas has a population of about 312,000 and contains 20 municipalities.

In general, satisfactory progress has been made during the year. In every municipality ordinances have been enacted for the protection of the people against tuberculosis and other avoidable diseases; vaccination has been performed twice during the year; a system of reporting dangerous communicable diseases established and each municipality has been induced to provide itself with disinfecting pumps and disinfectants. Each municipality is also supplied with quinine. The province has made provision for the proper care of lepers awaiting transfer to Culion.

BENGUET.

The work of the district health officer is chiefly confined to the city of Baguio and a report covering the year's work along sanitary lines in Baguio has already been submitted in connection with the Baguio Hospital division report.

Work in the subprovince of Benguet outside the city of Baguio during the past year has been confined to sanitation in the camps of the Baguio-Aringay extension of the Manila Railroad Company. Sanitary Inspector Barron has given his entire time to sanitary work in these camps, with the result that very little sickness has occurred, although the laborers number from 500 to 1,000 at all times. Bacillary dysentery, which threatened to become epidemic among these laborers during the previous year, has been entirely eliminated.

Considering the number of laborers under supervision the very low morbidity rate has been very gratifying.

Throughout the subprovince of Benguet no outbreaks of disease have occurred during the past fiscal year. No sanitary inspections have been made and no vaccinations performed outside of the city of Baguio, owing to the fact that the inspector's time has been devoted to the Manila Railroad work exclusively.

BOHOL.

This province has been organized into sanitary districts under the Fajardo Act.

With the exception of an epidemic of dysentery in the earlier part of the fiscal year and a few cases of chicken pox, the state of the public health has been very good.

The number of births reported in the province during the year was 8,993 while the deaths numbered only 681, showing that Bohol is one of the most healthful provinces in the Philippine Islands.

BULACAN.

Bulacan is an important province and the report submitted by the district health officer is very extensive.

Total amount appropriated for health purposes by the province was	₱21,600.00
Total amount expended by the Health Officer	18,311.16
Remaining on hand	2,288.84

Extensive vaccination has been carried out, although there has been no smallpox in the province.

One case of plague was reported. The patient acquired the disease in Manila and went to Malolos.

During the year there were reported 238 deaths from dysentery, 28 from typhoid fever, 697 from tuberculosis, and 493 from malaria.

The bathing resorts of Marilao and Sibul are treated at length by the district health officer in his report as is the fiesta of Obando. It is estimated that from 20,000 to 25,000 visitors attended the dances at Obando for each of the four days of the fiesta. This crowd was so well handled by the health officer and his subordinates that no epidemics of dangerous communicable diseases occurred.

The recommendations submitted include a suggested amendment to Act 2236 making district health organizations compulsory and pail systems for Sibul and for the municipality of San Miguel de Mayumo, of which it is a part.

CAGAYAN AND ISABELA.

(First health district.)

The health of this district has been fair, there have been no extensive epidemics except measles, which disease was present in nearly every town; there was only one death reported, however, showing it was a very mild form.

The death rate has been gradually decreasing as the following table shows; over 55 per cent of the deaths are in children 5 years of age and under:

Death rate per 1,000 for the year—	
1910–11	33.84
1911–12	29.22
1912–13	28.97

In the semiannual vaccinations there were 12,156 persons vaccinated principally by the 2 provincial sanitary inspectors.

Twenty-six lepers were collected and sent to Culion.

Four new municipal cemeteries were opened during the year.

The following towns were inspected by the district health officer on his inspection trips: Alcala, Baggao, Ballesteros, Pamplona, Sanchez Mira, Claveria, Lallo, Amulung, Aparri, Enrile, and Solana.

There are 8 municipal and 2 provincial sanitary inspectors in Cagayan Province, which is a very fair showing.

Fevers, mostly malarial, are more or less prevalent all over the district, but none are of the malignant type seen in Mindoro and Palawan.

Yaws were reported from two coast towns near the Mountain Province of Apayao, namely Claveria and Pamplona.

Nearly all the towns are unable to support a municipal physician except Aparri and Tuguegarao. The district health officer recommended that three or four towns join together and employ a municipal physician, the towns to share expenses prorata, but the councils and provincial board could not do this on account of the lack of funds.

The amount of provincial funds available in the provincial treasury for the year 1913 for salary and other expenses of the department of health for Cagayan Province was ₱5,880.

CAPIZ.

The province has been entirely free from cholera and smallpox during the year and with the exception of an epidemic of measles that was introduced by children that had been attending school in Manila, the public health has been remarkably good.

There were several cases of dysentery which in nearly every instance was traceable to surface contamination of wells. Where rain water or artesian-well water is used, there were no signs of dysentery; however, fewer cases occur each succeeding year.

The fly-proof sanitary pail of the Bureau of Health has been just what is needed in municipalities where there is no sewage system. These pails are manufactured by the provincial trade school and sold at a nominal price. Every male pupil gets one free of charge to take home.

The province would have been organized into sanitary districts but for the destructive typhoon in October and a loss of crops through the locust pest which so reduced the income from taxes that the organization could not be put into operation. It is hoped that organization under Act 2156 may be accomplished in the near future.

Malaria has been very prevalent and free quinine has been distributed to the indigent poor. Dengue fever has also been prevalent. The official simple remedy packages were very valuable in treating these diseases.

There are two cases of leprosy in the province awaiting transfer to Culion. So far as is known these are the only lepers remaining in the province.

Tuberculosis is the most prevalent disease. It is believed that if tubercular patients were subjected to segregation it would result in the eradication of the malady.

Although there has been no smallpox, systematic vaccination has been kept up. It is recommended that a law be passed to prohibit the admission of children into any school until they present certificates of vaccination.

Several new cemeteries have been established and it is hoped that during the coming year every municipality will have a cemetery of its own.

The new, reënforced concrete market in the town of Capiz will cost about ₱32,000 and is a very greatly needed improvement.

There are 160 reported cases of insanity in the province.

CEBU.

Conditions in the Province of Cebu during the fiscal year have been excellent as evidenced by a decrease in the total number of deaths of 2,573. The death rate for the province was 19.56 per 1,000 and the birth rate 39.83.

The sanitary service was reorganized under the provisions of the Fajardo Bill. All of the health officers are not physicians, but within a short time those who are not are to be replaced by competent medical graduates.

During the year 289,262 vaccinations were performed. A small epidemic of smallpox occurred but was soon suppressed, the total number of cases being 451.

Fifteen new cemeteries were opened, two old cemeteries were approved for continued use and four closed as being a menace to the public health.

The new Osmeña water system in Cebu City proves its value every day. The existing artesian wells are largely patronized by people who cannot afford to take advantage of the benefits of the new system.

There are also artesian wells in Argao, Danao, Alcoy, Dumanjug, and Dalaguete and several more are to be sunk in other municipalities.

Bacillary dysentery was epidemic to some extent, but yielded to sanitary measures.

On the night of October 16, 1912, a terrific typhoon visited Cebu Province resulting in great loss of property and 396 known deaths. Out of disaster has come some good in the way of better sanitation, especially better buildings.

Free clinics have been established to treat trachoma, 240 cases of which were found in the public schools.

Prison sanitation, physical examination of laborers for Hawaii and examinations for the public service, leprosy, supervision of the inspection and plumbing division, and many other things have engaged the attention of the district health officer.

The employment of three provincial nurses, which to some extent was in the nature of an experiment, is reported as very satisfactory. Their work has taken them into all kinds of places and everywhere they have been they have achieved good results.

If it had not been for the great storm Cebu would have had a still more favorable report to submit.

ILOCOS NORTE AND ILOCOS SUR.

Ilocos Norte and Ilocos Sur, known as the Ilocano Provinces, constitute health district No. 2 with headquarters at Vigan, Ilocos Sur.

The provinces are of considerable commercial importance and have business relations with the surrounding provinces and Manila which exposes them to the dangers of dangerous communicable diseases when there are epidemics nearby; but no serious invasions occurred during the period covered by this report and the condition of the public health may be reported as satisfactory during the entire year.

ILOILO.

The sanitary organization of the 22 municipalities of Iloilo consists of 9 subdistricts in charge of 6 registered licenciates of medicine and 3 cirujano ministrantes in charge of sanitary inspectors.

While the provisions of Act 2156, known as the Fajardo Act, have not been strictly complied with in the matter of the organization, they have been practically so to all intents and purposes, the reason for noncompliance being the lack of funds on the part of the province, as it would require, under the present organization, an additional appropriation of about ₱12,000 which is impossible.

The work that has been accomplished seems to have been satisfactory and has undoubtedly resulted in much improvement in the sanitary conditions as well as increasing the importance attached to this office.

Following the recent election a number of requests were received for the removal of sanitary inspectors and the appointment of others to replace them, but it is believed, from all that can be learned, that these were based solely on political reasons and the appointments desired were considered more or less in the light of campaign rewards. The importance of all sanitarians refraining from active political work has been strongly urged upon them.

Regular monthly and weekly reports are required from the subdistrict physicians and sanitary inspectors, these reports giving the number of indigent cases treated, amounts of medicines expended, number of vaccinations performed, number of houses and markets inspected, and of the correction of infractions of sanitary ordinances or regulations, any cases of contagious or communicable diseases found as well as any unusual occurrence requiring special report, also all instructions received from this office are acknowledged together with the results of same.

The medical supplies issued are based as far as practicable on the Bureau of Health simple remedies packages. Requisitions are required and supplied quarterly, except in cases of emergency, the expense of these supplies being provided from the provincial and municipal funds set aside for that purpose. With this method in force many indigent sick who never enjoyed the advantages of medical attendance now have them, while the reports rendered furnish valuable aid in determining the morbidity and mortality in the province, this applying especially to malaria.

Generally speaking, Iloilo is one of the provinces having a bad water supply, although those who can afford it provide themselves with tanks for collecting rain water for drinking and other purposes. With the above exceptions, the general sanitary conditions have been good and uneventful.

So far as known there has not been a case of cholera during the year. In view of the general insanitary water supply cholera would naturally be a serious menace and its control a difficult problem, especially among the poorer class who are unable to afford proper facilities for collecting sufficient rain water. With this especially in view the importance of numerous artesian wells scattered throughout the province has been repeatedly emphasized to both the municipal and provincial governments and at least one in each town should be provided. During the past year eleven wells have been completed and with a few exceptions are producing good results. The importance of Iloilo both from the standpoint of its size, commercial interests, foreign and interisland communication, and shipping renders this protection from both cholera, dysentery, and typhoid fever doubly imperative. At present in many instances the drinking water is obtained from streams that serve the double purpose of laundry, bath house, and open sewer, while among the poorer and more ignorant classes any appreciation or understanding on their part of the necessity for, or the importance of, the sterilization of water is absolutely beyond their comprehension.

Malaria is probably the most serious disease in the province and especial efforts are being made for its elimination. In many of the towns mosquitoes are abundant, while in the city of Iloilo they are found in all places in swarms, breeding places have been found uniformly distributed throughout the city both in houses, swamps, streets, gutters, vacant lots, and in both fresh and salt water, while practically all of the water tanks examined have been found swarming with pupa or larvae. In this respect Iloilo is particularly unfortunate in being so near sea level that much of it is under water by reason of limited drainage facilities, and stagnant water, especially under the houses where protected from light and wind, offer ideal breeding sites. In Iloilo, as well as other towns, quite a number of Anopheles mosquitoes have been found. A campaign has been started for the extermination of these pests but, by reason of lack of funds, it will have to depend largely on the individual coöperation of the people for its success. The refuse, sweepings etc., are being used to fill in the low lands where breeders are found and this is later covered with a coating of salt, sand or petroleum to prevent fly breeding, while all water receptacles are being covered as rapidly as possible with oil or screened. It is believed that at least 5 per cent of the mortality has been due to this disease alone. The physicians in charge of the subdistrict have been especially urged to instruct the people both individually and by public conferences in the methods of mosquito extermination and its importance. An appropriation was made during the month of August by the municipality of Iloilo for this campaign, but owing to the outbreak of plague it was necessary to use it for that purpose.

Special recommendations have been made to the towns relative to the erection of concrete markets (of which 8 have been completed or are under process of construction), slaughterhouses, artesian wells, and encouraging the people in complying with the sanitary ordinances both in the spirit and in the letter, as well as the general cleaning up and beautifying of their towns.

Smallpox seems to have been eliminated during the past year; the only case occurring being the one previously cited at Sara. The systematic vaccination which has been going on for the past two years is completed and last year's records should serve as further conclusive evidence of the value of this method of disease prevention and elimination. The systematic vaccination, every six months, of all children and others not previously successfully vaccinated is being carried on. There have been 30,816 vaccinations done during the year.

One hundred and seventeen lepers (89 males and 28 females) were segregated and later transferred to Culion. In this connection it is gratifying to note the marked change in the attitude of these unfortunates toward their removal to Culion. As the result of the very favorable reports that have been frequently received by family and friends or patients there as to the treatment they receive and the existing conditions, they now offer little or no resistance or objection to their transfer, and during the past month one case came from a distant town at his own expense and presented himself for examination stating that he thought that he had leprosy and wanted to go to Culion.

There have been 17,412 births during the year and 11,455 deaths by ages as follows:

Under 30 days	820
30 days to 1 year	1,929
1 year to 2 years	1,592
2 years to 5 years	1,984
5 years to 10 years	908
10 years to 15 years	309
15 years to 20 years	308
20 years to 25 years	420
25 years to 30 years	385
30 years to 40 years	596
40 years to 50 years	481
50 years to 60 years	492
60 years to 70 years	463
70 years to 80 years	378
80 years to 90 years	258
90 years to 100 years	112
100 years and over	10
Total	11,455

The deaths from the most prevalent diseases were as follows:

Dysentery	2,372
Infantile convulsions	2,030
Tuberculosis	1,624
Malaria	634
Infantile diarrhœa	287
Enteritis	354
Typhoid fever	30

The annual death rate per 1,000 was as follows:

	Population.	Deaths.	Death rate per 1,000.
Americans	234	1	4.273
Filipinos	416,594	11,129	26.714
Europeans	370	4	10.810
Chinese	2,133	18	8.438

One hundred and thirty six insane have been found as follows: Males 73, females 63; children 1, single 98, married 25, widowers 3, widows 9.

Of these, several are more or less violent and it is unfortunate that funds are not available for their proper care. With a few exceptions they are cared for by their families or friends and when they become sufficiently violent to render them a menace to the community or their families they are confined in a special room in the tribunal under guard and are subsisted either by the town or by their family.

In a number of the larger houses septic tanks have been installed, but the very large majority of the people still follow various methods for the disposal of excreta, some have closets emptying directly into streams or the sea, others use tubs, buckets, or cans emptied at intervals and with no attempt at fly proofing, while many use the ground both under their houses and in the vicinity.

The sanitary pail introduced by the Bureau of Health has been strongly recommended and has been introduced in the buildings under Government control having no sewer connections. It is the intention to push the installation of this pail especially in Iloilo, and if possible have every house not now connected with a septic tank provided with one or more and have the collection and cleaning done either by the municipality or province. At present it is done by contract, the house occupant paying a monthly rate for the service.

Garbage is collected in Iloilo by means of bull carts, the force consisting of 1 chief, 4 drivers, and 17 cleaners, the cleaners being provided with scoops or shovels and wheelbarrows. They clean the streets and gutters of all refuse and garbage, depositing same in the boxes or cans that all property occupants are required to keep in front of their premises in which to deposit the garbage and refuse from their houses, these containers being emptied daily. The cost of this service is ₱4,200 yearly.

The amounts appropriated have been as follows:

Provincial	₱5,734.00
Municipal	15,640.00
Iloilo	2,700.00
Total	24,074.00

The municipal appropriations have been as follows:

Arévalo	₱132.25	Lambuano	₱163.55
Balasan	532.60	León	494.78
Banate	392.89	Miagao	611.14
Barotac Nuevo	404.00	Oton	442.14
Buenavista	681.51	Passi	622.52
Cabatuan	412.90	Pototan	1,142.25
Dingle	276.35	San Joaquin	401.31
Dumangas	599.84	Santa Barbara	1,168.24
Guimbal	435.96	Sara	909.40
Janiuay	484.49	Tigbauan	319.25
Jaro	1,500.48		

RECOMMENDATIONS.

The most urgent needs of this district are a fairly well equipped laboratory and dispensary. At present the only laboratory facilities available are the personal equipments of Doctors Carson and Arroyo of St. Paul's Hospital, and while both have been very courteous in extending both the use of their apparatus and assisting in the work, yet there is a most urgent need of an equipment at all times available and under the control of this office.

Arrangements have been made for the treatment of Government officials and employees at St. Paul's Hospital, and while the service there is in every way a most excellent one it is believed that a dispensary maintained by this office where all officials and employees of the Government service, irrespective of the branch, whether of the Federal, Insular, provincial, or municipal, could receive attention, would prove far more satisfactory.

The need of more artesian wells cannot be too strongly urged not only in the vicinity of Iloilo, but throughout the district, as it is firmly believed that this is the only reliable and practical solution of the problem of the elimination or control of dysentery, cholera, and typhoid fever.

In Iloilo all of the streets should be under the jurisdiction of the district engineer for maintenance, as about three-quarters of them now are.

The garbage and excreta should be collected systematically by either the municipality or by the province and the expense charged against the town. It is believed that if the installation of the fly-proof pail is enforced in every house and a sliding scale of charges fixed for the service of emptying same that it could be accomplished more satisfactorily then at present and at a lower cost, and still be able to render the service free to those who are really indigent and unable to pay for it.

The filling in of the lowlands of the city and the construction of a sea wall is by far the greatest problem to be faced and likewise by far its most important one. A portion of the town and some of its most densely populated squares are entirely under water at high tide and even at low tide a large area is covered with stagnant water, and as no drainage is possible the only remedy is the raising of the entire level. An estimate shows that the average fill required would be about one-half meter.

(See article entitled "Plague in Iloilo" in the main section of this report.)

LEYTE.

The annual death rate, including the deaths from the storm of October, 1912, was 17.26 per 1,000 and the principal causes of death, apart from the diseases of early infancy, were malaria and tuberculosis.

The birth rate for the province was 31.065 per 1,000 inhabitants. Ten sanitary districts, each under the charge of a competent physician, have been organized. Each district is comprised of from two to four municipalities.

Up until March 31, 1913, 66,229 vaccinations were performed in the province and the regular sanitary work kept up in all the municipalities. About 65 per cent of the vaccinations gave a positive result.

Several of the municipal markets of the province were either destroyed or so badly damaged by the October typhoon as to place the market situation in a very deplorable condition. In cases where appropriations have been made by municipal councils for market repairs or construction, the amounts appropriated were not sufficient to do the work properly. Recently several municipalities have obtained loans of Insular funds for market purposes and will construct creditable markets.

Every municipality has been supplied with simple remedies package No. 1, also a model of the "fly-proof sanitary pail," the use of which they were urged to adopt.

MINDORO.

Mindoro is a specially organized province, so created by Act No. 1396 of the Philippine Commission. It has an approximate population of 60,000, divided, roughly, into the Christian Filipinos living in the coast towns and the non-Christian tribes of Mangyans, several groups of people inhabiting the interior and the mountainous districts of the island. The reason for organizing this province under this Act is because the revenues, municipal and provincial, are insufficient to maintain the provincial government without Insular aid. Receiving as it does an annual sum of ₱34,400 from the Insular Treasury, one might infer that the financial allotment for sanitary purposes, among other projects of public interest, would receive at least equal consideration in the apportionment of this fund, but this is not the case.

It was the custom in former days, in the punishment of convicted criminals and other violators of laws, political or religious, to exile them. Mindoro Province received the bulk of these undesirables. Aside from the fact that communication with the outside was difficult if not impossible, the island was so infested with mosquitoes, and consequently malaria, that a large percentage of these deported persons succumbed to the ravages of this disease.

There is no record of births or deaths kept in the province from which one might collect any data for purposes of statistical information. This is due to the conspicuous absence of local health officers and to the fact that there is no ordinance making it obligatory on the part of the municipal authorities to compile such records.

The Province of Mindoro with an aggregate area of 3,500 square miles, is made up of only 13 township governments, giving an average of 269 square miles of territory for each district.

There are about six to eight barrios to each of these townships and these barrios are situated from 5 to 10 miles from the township government, hence it is very difficult to collect statistics. From incomplete reports of the number of deaths covering the period from January 1 to June 30, there have been 470 deaths in eight townships, 426 of which died without medical attendance.

The diseases most prevalent of late years have been the parasitic infections, the water-borne diseases, and some cases of eruptive fevers. Malaria, of course, heads the list both in the number of cases reported and as a factor in the death rate. Dysentery and typhoid fever come next, and the eruptive fevers, especially measles, while not occurring in great numbers, were constantly present in the west coast towns.

The health conditions of the province were very good in most municipalities, with the exception of Lubang. Dysentery made its appearance in Lubang, followed a few days later by a case in Vigo 8 miles south. There were 44 deaths from dysentery from January 1 to June 30, 1913, in eight municipalities.

In March last Mamburao reported 10 cases of measles with 2 deaths. The disease at one time assumed epidemic proportions due to lack of precaution on the part of the municipal officials and the parents of the children.

For the period from January 1, 1913, to June 30 there was reported from eight of the thirteen townships 22 deaths from typhoid fever. A number of deaths reported under diarrhœas and fever diarrhœa were too poorly defined to be classed under this heading.

Pulmonary tuberculosis is much more common than is generally believed. Diagnoses made by fairly competent cirujano ministrantes who are located in three of the thirteen townships gives the number of deaths from this diseases as 49 for the three townships.

There were collected 2 lepers from San José and Pola, respectively, and 1 in Calapan.

There has been but 1 case of varioloid reported to this office.

The total number of deaths reported from malaria was 94, 54 of which were diagnosed malarial fever, pernicious malaria, and malarial cachexia. Of this number the diagnosis in only 10 cases, which came from the San José Hospital, can be relied upon as being absolutely correct.

There are two varieties of mosquitoes in the northern section of Mindoro—the *Culex pungens*, or the gutter mosquitoes, and the *anopheles maculopenis*. The latter is the more common of the two. After repeated requests for coöperation, the provincial board has at last set aside money for the purchase of the proper materials to be used in a campaign of mosquito extermination. To this end, in addition to the actual destruction of mosquitoes and their breeding places, a letter has been directed to the chief, department of fisheries, Bureau of Science, regarding the mosquito-destroying fishes, with a view to putting them in pools and in places where water remains stagnant for a considerable length of time.

The bakeries are now operated in the cleanest possible manner. The cementing of the bakery floors and the change from nipa to iron roofing was made during Doctor Santos's administration of this office.

The water supply of this province is derived from three sources—surface wells, artesian wells, and rain water and, in the case of Bulalacao, spring water. There are only three townships—Naujan, San José, and Bulalacao—which have good drinking water. The former two get water from artesian wells and the latter from springs.

Formerly the only sanitary ordinance pertaining to the disposal of garbage was that of cleaning, by each house owner, of that part of the streets which were adjacent to their respective houses. No provisions were made for the disposal of garbage.

Garbage cans are now in use in every house. It is obligatory on the part of every house owner to place the garbage in these cans. A garbage collector on the pay roll of the township government is intrusted with the collection of the garbage daily.

Arrangements are being made with the Provincial Trade School for the construction of the fly-proof sanitary pails for distribution at cost.

The organization of sanitary divisions in this province as provided for by Act 2156 has been continually pushed by this office. The prospect is more favorable now than at any previous time for the successful termination of the project.

The total funds of the province amount to ₱73,963.07; the total health fund available therefrom is ₱7,396.30 and the total salaries of municipal health officers ₱4,430.

MISAMIS.

Notwithstanding the fact that the death rate in the province has been relatively high on account of an epidemic of dysentery, the number of births reported exceeded the deaths by 1,532.

There has been some smallpox in the province, but isolation of the sick and vaccination of the well soon caused its disappearance.

The number of vaccinations for the calendar year 1912 was 23,851, but that for 1913 will be greater for the reason that the sanitary personnel has been increased and made more efficient.

Observations made by the health officers of this province without exception support Fraser's view that beriberi is brought about by eating polished rice to the exclusion of a properly balanced diet.

During the year 15 lepers have been sent to Culion from the subprovince of Bukidnon.

A census of the incapacitated defectives shows 104 insane, 100 blind, 57 deaf and dumb, and 33 suffering from disabling physical defects.

While the sanitary district organization contemplated under the Fajardo Act (Act 2156) for Misamis Province has not been completed on account of the lack of funds, there is some kind of health representation in every municipality except Baliangao.

Wherever sanitary inspectors are in charge they are "en funciones de presidente de sanidad."

The amounts appropriated by the municipalities of this province for sanitary purposes for 1913 are as follows:

Baliangao, ₱60; Balingsag, ₱261; Cagayan, ₱300; Catarman, ₱187; Gingaog, ₱300; Initao, ₱420; Jimenez, ₱180; Langaran, ₱420; Mambajao, ₱560; Misamis, ₱250; Oroquieta, ₱300; Sagay, ₱255; Tagoloan, ₱240; Talisayan, ₱300; a total of ₱4,033.

The district health officer has tried to have a provincial health code adopted so that the sanitary requirements may be the same in every municipality.

Under the law the only method of procedure open is to have each municipality adopt a general sanitary ordinance based upon the sanitary codes of Manila and Cebu. So far success has not attended the effort, but the health ordinances of the different municipalities now approximate conformity more nearly than ever before.

MOUNTAIN.

Malaria and dysentery of a severe type appeared in the subprovinces of Kalinga and Ifugao in August, and under treatment was reduced to normal conditions by November.

Bacillary dysentery was for a time epidemic at Guinsadan, subprovince of Lepanto, and 26 deaths occurred before the disease was under control.

An outbreak of a suppurative conjunctivitis, resembling the Koch-

Weeks infection, appeared in Sadanga, affecting 50 per cent of the inhabitants, but was readily subdued.

Typhoid fever has been endemic in Tagudin, subprovince of Amburayan, during the year.

An outbreak of smallpox appeared in the subprovince of Amburayan, which was effectively controlled.

Five cases of leprosy were transferred to Culion during the year, and 1 died in the hospital.

INSPECTIONS.

The district health officer inspects the various stations at least three times a year and visits the Sagada Mission twice a month to hold clinics.

There are established sick wards at Tagudin, Cervantes, and Kiangan, also dispensaries at Lubuagan and Tauit under the charge of assistant sanitary inspectors of the Bureau of Health. Provincial medicines are furnished certain of the Constabulary officers for the treatment of the indigent sick in their districts.

Intelligent natives and road foremen are occasionally supplied with simple remedies for the treatment of the sick. In the subprovince of Kalinga prophylactic treatment for malaria is given during the rainy season.

BONTOC.

Septic vaults with flush systems have been installed in all Government and public institutions in Bontoc. The dry-earth closet system and garbage disposal has been continued in the sanitary district.

A public market with sanitary resthouses surrounding same has been erected and will be provided with flush closets and shower baths. The future plans call for a slaughterhouse and stables for transportation animals.

A system for collecting and disposing of manure has been instituted.

Dysentery has been eliminated from the Bontoc jail by careful screening of the kitchen, the supervision of the boiled drinking water, and the use of spoons to eat with.

An infectious itch resembling impetigo contagiosa was for a time quite prevalent among prisoners and school children.

SUBPROVINCE OF LEPANTO.

The dry-earth system for closets is continued here and in the larger Christian towns. The new automatic drop seat for toilets is being installed. Water from an uninhabited watershed is being piped to the town. Plans for an incinerator for garbage and fæces are being prepared.

TAGUDIN.

In May the municipal council was finally persuaded to adopt and enforce the installation of the sanitary fly-proof pails of the Bureau of Health. One artesian well is furnishing water and another is being sunk.

VACCINATIONS.

About 24,000 persons were vaccinated in the subprovince of Amburayan.

The subprovinces of Bontoc, Lepanto, and Amburayan are now completely and thoroughly vaccinated. There still remains the subprovinces of Ifugao and Kalinga to vaccinate.

NUEVA ECIJA.

The fiscal year began with favorable prospects. The condition of the public health was excellent, but during the latter part of July dysentery made its appearance in San Isidro, San Antonio, Cabiao, Gapan, Jaen, Aliaga, San Juan, and Cuyapo. The disease manifested itself among children from 1 to 5 years of age principally, though several adults were afflicted also. It is believed that the disease was water-borne as those who used boiled or filtered water did not have it nor did it occur among those who used artesian water. Other causes might have been certain native fruits that ripened during that month or shellfish that the children ate. The disease disappeared in about six weeks after adopting the usual hygienic measures—that is, regulation of the diet, disinfection, and cleanliness.

There has been some malarial fever during the year but it was not so widely spread as in other years.

In the municipalities of this province where the sanitary ordinances are observed as in Cabanatuan a marked improvement is produced in the public health. It is hoped to bring the other municipalities up to the standard maintained in the provincial capital as soon as possible.

A movement is under way to organize the province into sanitary districts of which there are to be eight, each in charge of a duly-qualified physician assisted by a sanitary inspector.

The estimated expense for such an organization is as follows:

Eight presidents of sanitary divisions, at ₱1,200 per year	₱9,600
Eight sanitary inspectors, at ₱360 per year	2,880
Traveling expenses	2,000
Medicines, disinfectants, and instruments	1,500
Total	15,980

The proposed appropriation for the coming fiscal year is ₱7,700; with this amount the system cannot be inaugurated.

NUEVA VIZCAYA.

During the fiscal year the condition of the public health has been satisfactory. The comparative mortality in general has been lower than it has ever been in the history of the province, and the gastro-intestinal diseases less than they have been in thirteen years.

Vaccination work and its results have been very satisfactory. Malaria has decreased although still prevalent to some extent. The health officer has sent out free quinine and sulphate of magnesia (Epsom salts) to all infected communities. A vigorous campaign has been conducted against tuberculosis especially in an educational way.

Another important sanitary project that has been successfully begun is the boring of artesian wells. Wherever they have been put in operation, the death and sick rates have decreased.

Market conditions are reported as satisfactory.

The cemeteries of the province have been brought into conformity with Act 1458 and many improvements made.

Considerable attention has been bestowed on jail sanitation, especially with reference to protecting the food and drink of prisoners from contamination so as to avoid the dysenteries.

The district health officer has held several hygienic conferences in different municipalities and delivered lectures on public-health topics, and health organizations have been formed wherever practicable.

The province conducts a hospital and dispensary under the direction of the district health officer. During the year 141 patients were treated in the hospital, 98 of whom were men and 43 women.

There were 74 pay prescriptions and 3,073 free prescriptions filled in the dispensary.

When it is taken into consideration that the hospital has only six beds it will be seen that it was well patronized.

OCCIDENTAL NEGROS.

The province is composed of 22 municipalities.

An effort has been made to organize the province with 10 sanitary divisions in accordance with the provisions of Act 2156, but the scheme was disapproved of by the provincial board for financial reasons.

It is an easy matter to secure the consent of the municipal councils for the establishment of sanitary divisions under the aforesaid Act, but since approval by the provincial board is necessary, and is optional with this body, it is very difficult to put the law into operation. The only remedy would be an amendment to the Act.

During all of the inspection trips of the district health officer, advantage has been taken of the opportunity afforded to confer with municipal presidents and councilmen with regard to the necessity for better sanitary conditions and to urge upon them the importance of making adequate appropriations for sanitary purposes.

This campaign of sanitary education has not been confined to municipal officials as it has been carried on through the schools, by public lectures, by circulars, by letters, by conversations, and in every way possible. The main idea has been to impress upon the people that there is no subject which should interest them to such an extent or which has such far-reaching effects in their lives as that of their health. Special stress has been placed upon the easily preventable diseases such as tuberculosis, typhoid, malaria, and cholera.

During the year there were 33,039 vaccinations performed in the province, though there was no epidemic of smallpox.

Special care has been taken to maintain all municipal property in a sanitary condition as it is believed that something may be accomplished by setting a good example.

There are 27 artesian wells in operation and all municipalities with the exception of 6 have at least one. Efforts are being made to have 69 more sunk in order that all the towns may have an abundant and pure water supply.

Immediately after the receipt of the model of the sanitary fly-proof pail and letter of instructions regarding it, appropriate ordinances were drafted for putting the system into effect. Nine towns have adopted the ordinances and installed the system.

The municipalities are displaying considerable interest in the question of building new markets and 6 towns have already applied for Government loans to construct markets costing from ₱15,000 to ₱40,000.

La Carlota has just completed a modern reinforced-concrete market and it is the best one in the province.

Garbage is burned in appropriate spots as no better facilities for its disposal exist.

The cemetery question has been attended by the usual vexations and delays. A plea of poverty is always advanced when a request for improvements is made. Some progress has been made, however.

Several municipalities allege that they are too poor to buy simple remedies packages, hence it becomes the duty of the district health officer, on his inspection trips, to treat the poor and to divide existing stocks of medicines into groups and place directions for their use on them. If simple remedies packages were provided this would be avoided.

The various municipal councils are annually urged to set aside money for the purchase of disinfecting pumps and disinfectants, but in spite of this some of them are unprovided as the money is used for other purposes.

Free clinics have been established in San Carlos, La Carlota, and Kabankalan and records pertaining to the same are kept.

In municipalities where there are health officers a system of school inspection is maintained.

The division superintendent of schools has recommended the installation of the sanitary fly-proof pail system in all schools.

During the period covered by this report there has been considerable dysentery which has proved fatal in a large percentage of cases, especially among children. The infection was carried over from 1911 and the outbreak precipitated by infected water supplies due to the heavy rains. The drought of 1912 resulted in a very large area of surface pollution. All the approved methods of combating it were employed and in September, 1912, it began to abate.

Quinine capsules were distributed wherever needed and in several instances brilliant results were obtained.

So far as known there are no lepers in the province.

The sanitary advancement of the province in the future depends largely on the financial assistance rendered by the towns and the province as a whole and efforts are being made to make the municipal officials realize that sanitary work is fully as important as any of the other lines of improvement.

ORIENTAL NEGROS.

The sanitary conditions in this province have improved a great deal during the year. The death rate in some municipalities is the lowest in their history. The municipalities in general are clean and the people are giving much attention to keeping their houses and grounds in a sanitary condition.

The usual sanitary measures have been applied during the year and a close inspection has been kept up.

PALAWAN.

Considerable progress has been made in the way of getting health ordinances passed by the township governments and in putting into operation in the various towns the municipal monthly health report system employed in the regularly organized provinces. Other duties that required attention were municipal inspections, supervisory inspection of vaccinations, inspection of cemeteries, and the general improvement of the water supplies throughout the province.

The health ordinances drafted covered many subjects but dealt especially with the disposal of garbage, rubbish, and night soil; the prevention of mosquito breeding and the improvement of the drinking water supply.

PAMPANGA.

Pampanga Province has an effective health organization. It was the first province in the Philippines to organize health districts.

At present it is not organized under Act 2156, but the district health officer expects to bring about a reorganization during the coming year.

The existing organization consists of 15 presidents of boards of health appointed under Act 308; 2 health districts of 3 municipalities each organized under Act 1613, thus governing the entire 21 municipalities of which the province is composed.

The principal causes of death for the fiscal year were as follows:

Diseases.	Deaths.	Per thousand.
Dysentery	237	9.07
Typhoid fever	40	1.60
Tuberculosis	672	26.87
Malaria	590	23.20

The reports of the blind and insane show 2,349 of the former and 53 of the latter.

The general situation is encouraging. The district health officer has several sanitary projects under way and is very enthusiastic as to their effect on the people.

PANGASINAN.

The Province of Pangasinan has been entirely free from cholera, plague, and smallpox during the year, leaving the district health officer free to combat disease and death from ordinary causes.

The lack of municipal funds has been a great hindrance to the progress of sanitary work. There are many municipal health officers who understand and appreciate the great advantages of public sanitation, but on account of the lack of money they can do but little more than advise.

There have been 308 deaths from typhoid fever, 171 men and 137 women. The attention of the people has been called to this dangerous but preventable disease and every available means taken to check its progress. Wells have been disinfected and the people carefully instructed as to the disposition of night soil.

It is believed that the infection came from La Union or Ilocos Sur Provinces.

The same measures that are adopted in cholera epidemics were applied in this instance. The drinking water was ordered boiled and the people instructed with reference to washing their hands. So effective were these measures that throughout the entire province with its 46 municipalities and 2 townships there were only 29 deaths during the last quarter covered by this report.

Malaria is another disease that has given considerable concern to the health authorities. During the year there were 1,639 deaths, 876 men, and 763 women. Malaria is the most widely distributed in the province of all the diseases, since every section is more or less involved.

In the municipalities where the people make free use of quinine the disease is of relatively slight importance. They have been instructed in the use of the mosquito nets as they have in the use of quinine. An effort has been made to make the people afraid of mosquitoes, something that is rather difficult to accomplish since many of them cannot grasp the mosquito theory of the transmission of disease. During the dry season malaria is not nearly so prevalent as it is during the rainy season.

The usual measures against mosquitoes have been urged—that is, drainage, the use of petroleum, and smudge fires. Circulars have been sent out giving a full explanation of the precautions to be taken and advising the prophylactic and curative use of quinine.

Chicken pox has been present in 6 municipalities with a total of 91 cases.

The province owes its freedom from smallpox to vaccination.

Tuberculosis is another important disease in Pangasinan since it caused 1,396 deaths, 708 men and 688 women. This disease is one of the most serious in the province as its onset is so insidious and the early symptoms so misleading that when the afflicted realize what they have, they are oftentimes beyond cure. Furthermore, they have probably been the innocent means of spreading the disease. Tuberculosis is a more dangerous disease than cholera on account of its obscure onset and insidious character.

The health authorities are doing their best to disseminate knowledge concerning this disease, but many do not give heed.

The number of deaths in Pangasinan Province from all causes was less than during any preceding year under the present régime.

The number of births reported was 21,544, which is 10,304 greater than the number of deaths.

The work of vaccination has been kept up during the year, the number vaccinated being 86,201.

In municipalities where there was no one to perform the vaccinations the work has been accomplished by provincial sanitary inspectors.

A few years ago drainage canals were constructed in Lingayen and the question of extending this class of work is under consideration. Some municipalities have already improved their drainage in this way and more are to follow. The health officer is urging the proposition as a measure against malaria, typhoid fever, and dysentery. Frequent conferences have been held, especially on typhoid fever and dysentery, and the local health officers have visited the outlying barrios of their municipalities which could not be reached through the conference and delivered addresses on sanitation with especial reference to the hand and water borne diseases.

Another subject that has received attention is the improvement of the closets. On account of the lack of sewage systems it is impossible to have modern flush closets so the installation of the pail system recommended by the Bureau of Health is being urged.

The greater part of the markets are constructed of nipa and are without cement floors and become very muddy during the rainy season; but it is gratifying to report that Malasique, San Carlos, Bautista, and Lingayen have modern structures with cement floors and work is in progress on the new market at Calasiao.

The slaughterhouse question is being taken up also with the idea of having an observation corral in connection with each one so that animals may be properly observed for evidences of disease before they are killed.

It has been demonstrated that artesian wells exert a salutary influence on public health in this province and already 23 are in operation. This number will be increased as rapidly as conditions will permit.

The provincial jail is located at Lingayen and comes directly under the district health officer so far as medical supervision is concerned. A part of the jail is utilized for a hospital and another portion for a pharmacy. A supply of surgical instruments and an operating table are very badly needed. The health conditions of the jail and of the various municipal jails are being gradually improved. The closets and plumbing in the provincial jail are modern. The water comes from an artesian well. The food of the prisoners is very satisfactory, with the exception that unpolished rice is not always used. There have been 161 patients treated in the hospital during the year without a single death.

An assembly of all the physicians in the province in the health service was held to discuss ways and means of improving conditions. A report was made of this meeting at the time.

In the western part of the province Doctors Baraan, Montemayor, and Augsan are acting as health officers without pay and doing all they can for the improvement of sanitary conditions. Doctor Montemayor is one of the recent graduates of the College of Medicine and Surgery, University of the Philippines.

ROMBLON.

The general health of the population in the subprovince during the past year has been good and the mortality rate has been lower than that of the previous year.

Malarial fevers and their sequelæ, dysentery, and pulmonary tuberculosis have been the prevailing diseases throughout the year. There were no cases of cholera, smallpox, or plague registered during the year. Measles raged at Badajoz during the early part of the year with a high mortality rate due mainly to complications in the form of broncho-pneumonia. Varioloid made its appearance in Romblon during the month of April, but it did not spread to any appreciable extent as vaccination had been started weeks before its appearance.

Attention is called to the fact that poisoning by fresh fish is common in Romblon. It occurs during the dry months, April and May, and the natives claim that it has occurred since time immemorial. The undersigned has known of three deaths from this cause, one of which was seen a few hours before death, during his stay of one year in the subprovince. The case seen was that of a middle-aged Filipino woman, whose husband had died the previous year from the same cause. One day during the month of April she partook of some fresh, well-cooked, small fish with the people living in the same house. In an hour's time the woman began to feel sick with headache, pains in the stomach, malaise, and nausea; these symptoms were soon followed by vomiting, cold perspiration, clammy skin, and inability to void urine. The patient was seen at about 3 p. m., presenting all the symptoms of ichthyotoxismus; dyspnoea, cyanosis, dilation of the pupils, clammy skin, pallor, dizziness, headache, salivation, and vomiting, but there was no paralysis of speech or relaxation of sphincters; on the contrary, there was retention of the urine. The pulse was small and rapid. The mind was clear until the patient expired about 4.30 p. m., from collapse.

Only one person has been attacked, at a time, from among those that have partaken of the same catch of fish. This, in the judgment of the undersigned, goes to prove the claim of the natives that in a basketful of fish only a single fish may be poisonous. During the same season that the above case occurred there were two other deaths from the same cause.

Ten lepers were collected from the subprovince during the fiscal year for transfer to Culion, one died from dysentery while waiting for the leper boat at Romblon. With the exception of two, which came from Odioñgan, Tablas Island, all these lepers came from the barrio of Mainit, Banton. It is reported that many more among the people living in this place are affected with the disease. It is further reported that the place called Mainit, on the Island of Banton, at one time during the Spanish régime, was a leper colony with a cemetery in the neighborhood where the dead were buried.

Six thousand units of vaccine virus were used in the subprovince for purposes of vaccination. In Romblon alone during the months of April and May, 1913, 700 children, the majority school children, were vaccinated by the district health officer himself. The other municipalities employed public vaccinators.

A modern reinforced concrete public closet with eight seats, four for each sex, and running water, was opened in Romblon during the year. Others of the same kind will be constructed as soon as there are available funds in the municipal treasury. The privy is of the flush and pail system and is better in every respect than those of the same kind in the city of Manila. The three Chinese bakeries in Romblon which were all dark, dirty, damp, small, and illy ventilated, full of empty boxes, baskets, and cans and other refuse have been cleaned out, enlarged, floors cemented, and in every way made more attractive and more sanitary.

During the past year radical changes have been introduced in the public market of Romblon. Venders were allowed formerly to sell viands, *potos*, *maduya*, etc., on the market floor without being covered. At present all venders at the market are provided with a table or a suitable box not less than a meter in height upon which the viand or *poto*, with a proper cover or lid, is placed. All food exposed for sale, which does not require cooking (after it is sold), at markets, at private tiendas, or peddled in the streets is properly protected from flies and other insects by suitable covers, lids, or containers.

The installation of the fly-proof sanitary pail, a model of which was received from the central office, was planned during the year, but, due to the inability of the municipal president of Romblon to secure material, no pails were made.

SAMAR.

The sanitary conditions of Samar have, in general, been improved during the past year. The province has been free from epidemic or contagious disease except for a few cases of measles, and the people are gradually taking more interest in sanitary measures and consequently a better appreciation of their necessity and benefits results in an increased measure of coöperation and compliance.

This has been largely brought about by the work of the schools. The division superintendent, Mr. G. N. Anderson, has been most earnest and persistent in his assistance and has required the subject of public health to be given a great deal of attention in the school curriculum.

Lectures have been given by the district health officer and the teachers have had the importance of the subject repeatedly impressed upon them and they in return have heartily responded and the knowledge frequently evidenced by the pupils demonstrates that their efforts along this line have been particularly successful.

The usual high death rate among infants, from improper feeding or care, has continued, although a decided improvement along this line can be seen. Mothers are learning to feed and clean their babies and are becoming convinced that cold baths given during fevers in both children and adults are not immediately and necessarily followed by death as has been their former belief. Better grades of milk are being given when artificial feeding is resorted to, and fresh air is permitted to enter the sick room.

A number of cases of smallpox have been reported by the municipal officials at various points but in every case investigated it was found to be varicella.

The systematic vaccination of the province has been going on for several months, but owing to the lack of communication between the towns and barrios it has been necessary to use a small party. No opposition has been encountered, but, on the contrary, frequent requests have been received for vaccinators.

Sites for municipal markets have been selected at Laoang, Catarman, Calbayog, Catbalogan, Villa Real, Basey, Guiuan, and Borongan. The sites at Catbalogan and Calbayog have been approved, while the others are awaiting the action of the Executive Secretary. This is one of the greatest and most pressing needs of the province. In most places the market consists of a small nipa-bamboo structure with a dirt floor, no drainage, no protection from flies, and no suitable tables or stalls, rendering its proper cleaning difficult or impossible.

The advancement of the towns in sanitation has been considerably retarded owing to the lack of funds and a sufficient and satisfactory personnel. But two towns (Guiuan and Salcedo) are provided with a registered physician as president of the municipal board of health, while the district health officer performs this duty in the capital. The towns of Calbayog, Lavezares, Oquendo, Tinambacan, and Gandara are provided with sanitary inspectors acting "en funciones." Great difficulty is encountered in securing men for this work, as the limited funds available restrict the salaries and desirable men do not care to resist the opposition that the performance of their duties arouses.

The new fly-proof sanitary pail has been exhibited and has been introduced in the Government buildings, particularly the schools.

As a result of the energetic coöperation of the division superintendent of schools and the teachers, the pupils have conducted a fly campaign, presenting each week the fruits of their labors and a spirit of rivalry between the classes has been aroused that has stimulated the work to a very satisfactory degree. Many thousands of the pests have been killed, while a large number of breeding places have been eliminated.

With the exception of a few towns on the north coast, mosquitoes are comparatively rare, but as is to be expected malaria is present as an accompaniment to the mosquito infected towns.

Tuberculosis prevails throughout the province to an unnecessarily high degree, although it is believed that the campaign in favor of fresh air aided by the literature furnished by the Antituberculosis Society is beginning to show results.

The advanced school pupils have taken a great interest in the lectures given them and have distributed a large amount of literature and the requests for an additional supply have exceeded the supply.

A few cases of dysentery have been observed, but it has not prevailed to any appreciable extent. In several severe cases the serum was administered with prompt relief.

Two cases of cerebro-spinal meningitis and two of tetanus have been seen. One case of each class recovered under the serum and antitoxin treatment, while in the cases that died the treatment was administered late in the disease.

The ratine virus has been given a trial and the results would seem to justify its use on a large scale, both by the Government and by individuals.

The difficulty that is now found in finding a leper or in obtaining even rumors of one warrant the assumption that the disease is practically eradicated from the province. Little or no objection is now raised, as a rule, to their transfer to Culion and this is due to the many favorable reports that patients at Culion have sent to their friends and families.

Artesian wells have been bored at Calbayog, Catbalogan, Wright, and Villa Real and water has been obtained at the three last-named towns. Too great importance cannot be attached to this sanitary measure and it is hoped that at *least* one good well can be provided for each town in the near future.

The provincial governor, treasurer, and acting treasurer have rendered at all times every possible assistance and coöperation. They have complied with every request and recommendation made by this office without a single exception or modification and have greatly reduced the difficulties encountered and rendered the work much easier and more satisfactory. The municipal councils have also adopted without opposition every recommendation or projected ordinance presented by this office.

The most urgent needs of the province are:

A good hospital located at Catbalogan.

Artesian wells throughout the province.

Several trained nurses available for work throughout the province, performing what are generally considered the duties of district or out-patient nurses.

The hospital is an imperative need by reason of the fact that the limited communication between Cebu and Manila renders the transfer of severe cases or those requiring hospital attention generally impracticable. A large part of the time of the district health officer has been taken up with the care of cases of all degrees of severity that have come to Catbalogan from all parts of the province and urgently demanded medical or surgical care.

Artesian wells offer the only solution of the water problem. A large proportion of the population use water for drinking purposes that is taken from either surface wells or infected streams. The use of rain water has been encouraged and insisted upon, but this is obviously limited to those who can provide sufficient storage receptacles to furnish them with water during the dry periods. Water sterilization, as practiced in the provinces, by either boiling or other methods is both impracticable and delusive.

Trained nurses could render an inestimable service in assisting in the medical and surgical work of this office and by visiting the sick throughout the province, especially among the poorer and more ignorant classes, and in the preparation of infant food, care of the sick, particularly of infants, and the dissemination of much knowledge that would be of incalculable value.

SURIGAO.

There are nine municipalities in Surigao Province. In two of these municipalities, Placer and Dinagat, smallpox has occurred. In Placer there were 8 cases and 1 death and in Dinagat there were 6 cases with no deaths. The inhabitants of both municipalities were vaccinated as quickly as possible, which soon stopped the disease.

With the exception of the disease mentioned there has been no serious situation in the province though there have been several cases of malaria and dysentery.

In general the state of the public health was satisfactory.

The simple remedies packages have been of great service, especially in the remote municipalities.

The general lack of money in the province affects the health work. There has been no organization of sanitary districts under the Fajardo Act and as the appropriations will not be made until January 1 nothing can be done until that time, if then.

The district health officer is doing what he can to improve the system of garbage collection and disposal and to improve the closet conditions of the municipalities of the province.

The problems of building sites and house construction and repair are also receiving attention and ordinances have been prepared for the regulation of this important feature of sanitation.

TARLAC.

It can be safely stated that the condition of the public health in Tarlac Province was more satisfactory during the period covered by this report than ever before in its history, notwithstanding the extraordinary drought with its serious effect on the food supply. If it had not been for the distribution of rice among the poor people by the Government, there would have been great suffering and much sickness among the people.

There has been some delay in organizing the province into sanitary districts under Act 2156, but with the new amendment to the law, making a proposed organization effective, it is hoped that a complete organization will soon be effected.

Tarlac Province has been for several years cursed by malaria, but owing to the active campaign conducted during the last year against this disease the number of deaths have greatly decreased.

During the year nearly 500 physical examinations and reëxaminations were made for the Constabulary and various municipalities and proper certificates given. This work devolved upon the district health officer, because there were no facilities for weighing and measuring the applicants elsewhere.

During the year 8,241 vaccinations were performed, of which number 7,915 were inspected. Vaccination has completely driven smallpox out of Tarlac. Not a single case has occurred for two years. Owing to the presence of plague in Manila, measures against the disease have been taken in the province, though there have been no cases. One suspicious case on November 17, 1912, proved to be negative.

Among the duties that have occupied the district health officer in addition to the regular routine office work are inspections of municipalities, medical attendance of the provincial prisoners and of the indigent poor, inspection of tobacco factories and sugar mills, and attendance in court.

Tarlac is entirely free from lepers so far as is known. The municipalities receive presents for shipment to Culion.

There are 36 artesian wells in operation in the province and more in progress. The province possesses a well-digging machine.

A special feature of sanitary effort has been the protection of perishable foods in markets and tiendas. Everybody in the sanitary service in Tarlac has been busy. This is specially true of the local health officers who have done very creditable work.

TAYABAS PROVINCE.

The province now has an effective sanitary organization under Act 2156, and with the exception of a few isolated cases of chicken-pox, smallpox, malaria, dysentery, and beriberi, the health condition of the province has been exceptionally good for the entire year.

The sanitary work of the province has been thoroughly systematized and circulars of instruction issued to all employees. These circulars include the duties of sanitary inspectors, travel expenses, sanitary conferences, and many other subjects concerning health work.

In this province five sanitary conferences were held by the presidents of sanitary districts, to which the people came in large numbers. The whole field of ordinary preventable diseases were taken up in these conferences in language that the people could understand. The public showed much interest, enthusiasm, and satisfaction in the conferences.

The public-market question has been given due attention and a system of school inspection inaugurated.

UNION PROVINCE.

There were 2,722 deaths in the province in 1910, 3,335 in 1911, and 2,274 in 1912. In 1910 there were 6,223 births registered, 6,222 in 1911, and 5,632 during 1912. Thus there were nearly 10,000 more births than deaths in a period of three years.

The most common diseases encountered were malaria and the digestive disorders of children. Infant mortality is very low as compared with Manila.

There have occurred no deaths from smallpox.

Cemeteries are gradually being cleaned up and registered.

Not many cases of leprosy exist in the province.

The "simple remedies packages" are a godsend to thousands of people in this province, as they have no other opportunity of obtaining medicines.

In this province with 150,000 inhabitants there is not a single registered physician with the exception of the district health officer. One of the greatest needs of the province, therefore, is that more physicians settle here. At present many people patronize quacks with disastrous results.

The free distribution of quinine during the year has proved a great blessing and many lives have been saved that would otherwise have been sacrificed to malaria.

The province has not been organized under Act 2156 on account of lack of funds.

The sanitary fly-proof pail system has finally been placed in operation in the provincial capital and is a decided success. The greatest obstacle encountered in installing the system is the expense of cleansing and disinfecting.

The markets of the province are in an insanitary condition, but a new one is to be erected in the capital.

More than 400 examinations were made under Act 2169.

ZAMBALES.

Efforts were made to organize the province under Act 2156 during the year, but owing to the fact that the acting provincial treasurer was awaiting orders to leave the province and the poor conditions of the towns, owing to the drain imposed by the rinderpest quarantine, it was not accomplished; however, it is believed that during the coming year the provisions of the Act will be complied with as we have a new treasurer fully in sympathy with the project. The next possible thing was done, however. The province was divided into districts under Acts Nos. 308 and 1613, and a practicante employed in each district at salaries ranging from ₱15 to ₱40 per month. The towns of Candelaria, Masinloc, Palauig, and Cabangan were too poor to afford the establishment of these places; however, they have appointed municipal vaccinators for the semiannual vaccination.

These men, especially the one at San Antonio, are doing good work. They are supposed to inspect the schools once a month; the barrios twice a month and submit written reports of these trips; to vaccinate all children every year; to give two hours daily dispensary clinics for the public; to supervise the sanitation of the towns; to hold regular meetings of their boards as provided by Act No. 308, and to revise all sanitary ordinances and submit new projects of sanitation.

The semiannual vaccination has been faithfully carried out in the province. In those towns where no municipal health officer is appointed a municipal vaccinator has been authorized, and so far Cabangan is the only place where vaccination has not been done since January, but money has been provided for the work. During the fiscal year there were 16,441 persons vaccinated and 12,058 persons inspected with a positive result in 7,372. The low rate of positives is, in the opinion of the undersigned, due to the fact that the province has been vaccinated recently.

The question of public markets is not yet solved in this province. Subic has the largest market, but the place and the building are still unsatisfactory. The markets in the other towns are small nipa buildings without floors and with small benches for stands. However, there is a project for a ₱15,000 market for Subic, and one for ₱10,000 for Iba; the other towns will doubtless follow their example.

A small outbreak of dysentery occurred during the early part of the year with 199 deaths. Iba, San Felipe, San Narciso, San Antonio, San Marcelino, and Castillejos furnished the majority of the cases. It appeared to be of the bacillary type, and probably was due to the pollution of the shallow wells of these towns. Circulars, medicines, and instructions were sent out to these places. By September the epidemic was over.

A small outbreak of measles also occurred but no deaths were registered.

Two cases of typhoid fever were registered in San Felipe, and in both cases a careful disinfection of the house was performed and the wells closed.

Malaria is a disease the ravages of which it is difficult to determine owing to the fact that the diagnoses are very unreliable. There were registered 104 deaths for the year, but it is doubtful if the mortality was as great as reported. Quinine has been distributed to many cases through the assistance of our health officers and the teachers of the Bureau of Education.

During the year there were 17 lepers taken to Culion, 19 suspects were found negative, 4 suspicious cases are under bond, and probably there are 6 positives yet to be captured.

There are 37 insane people in the province. Only 2 are known to be of violent character. These 2 are under the vigilance of municipal police and the rest are under the care of their families.

The total number of births and deaths in the province for the last three years is as follows:

	1910-11	1911-12	1912-13
Births	2,753	2,610	2,840
Deaths	1,712	1,739	1,694
Marriages	660	694	621

From the above we see that there were 230 births more this year and 45 deaths less than last year.

The province is so poor that in case of an outbreak of cholera or any dangerous communicable disease the situation would be desperate as there are no funds available.

The usual duties have engaged the attention of the district health officer, such as acting as official physician in court cases; treating the indigent; supervision of health work including vaccination, general inspection, and cemetery inspection; the collection of vital statistics; making physical examinations for the public service; and other routine matters too numerous to mention.

PUBLICATIONS OF THE BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS.

Health Bulletin No. 1.—Infectious Diseases in the Philippine Islands. Period of Incubation, Quarantine, and Infection; Sources of Infection. (English and Spanish.)

Health Bulletin No. 2.—Asiatic Cholera in the Philippine Islands. Distribution and Sources of Infection, Etiology, Morbid Anatomy and Pathology, Symptoms, Diagnosis, and Treatment. Prevention. Rules for Observance on the Occurrence of Cholera in Municipalities and Barrios. (English, Spanish and Pampangan.)

Health Bulletin No. 3.—The Care of Infants. (English, Spanish, Tagalog, Pampango, Pangasinan, Ilocano, Bicol, and Visayan.)

Cholera Circular.—Simple Rules for Avoiding Cholera. (English, Spanish, Tagalog, Visayan, and Bicol.)

Health Bulletin No. 4.—Cholera. History, Description, Prevention and Treatment. (English.)

Health Bulletin No. 5.—Tuberculosis. (English.)

Health Bulletin No. 6.—Dysentery and How to Avoid It, revised 1912. (English.)

Health Bulletin No. 7.—Cholera Measures. (English and Spanish.)

Health Bulletin No. 8.—Instructions for Simple Remedy Packages. (English, Spanish, Visayan, and Tagalog.)

Health Bulletin No. 9.—Poisonous Fishes of the Philippine Islands. (English.)

Health Bulletin No. 10.—Philippine Habitations. (English and Spanish.)

Health Bulletin No. 11.—Insects and Disease. (English.)

Health Bulletin No. 12.—Beriberi and How to Prevent It. (English.)

Annual Report for each fiscal year. (English.)

Quarterly Report for each quarter of the year. (English and Spanish.)

Nomenclature of Diseases. (English.)

The Philippine Training School for Hospital Attendants, Manila, P. I. Circular of Information. (English.) (1910.)

Philippine Training School for Nurses, Manila, P. I. Circular of Information. (English and Spanish.) (1911.)

History and Description of the Philippine General Hospital. (English.)

Standards of Purity for Food Products. (English.)

Circular K-31.—The Extermination of Mosquitoes.

Sanitary Inspectors' Handbook. (English.)

Rules and Regulations for the Philippine General Hospital. (English.)

Circular of Information—Philippine General Hospital. (English.)

Standard List of Medicines and Their Pharmaceutical Preparations. (English.)

Administrative Decisions, Food and Drugs Act, Nos. 40 to 150. (English.)

VITAL AND GENERAL STATISTICS FOR THE PHILIPPINE ISLANDS

FISCAL YEAR, JULY 1, 1912, TO JUNE 30, 1913.

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SECTION 2.—Statistics for the Philippine Islands.
SECTION 3.—Statistics of hospital and other divisions of the Bureau of Health.
SECTION 4.—Miscellaneous.

SECTION 1.—STATISTICS FOR THE CITY OF MANILA.

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GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1913.]

POPULATION OF THE CITY OF MANILA FOR THE SECOND QUARTER OF 1913 GROWTH BASED ON THE INCREASE OF POPULATION FROM 1907 TO 1910.

Nationality.	Male.	Female.	Total.
Americans	3, 179	1, 214	4, 393
Filipinos	118, 097	104, 942	223, 039
Spaniards	1, 421	1, 068	2, 489
Other Europeans	483	195	678
Chinese	14, 416	421	14, 837
All others	957	385	1, 342
Total	138, 553	108, 225	246, 778

ESTIMATED POPULATION OF MANILA, BY QUARTERS.

	Americans.		Filipinos.		Spaniards.		Other Europeans.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1910.								
First quarter	3, 020	1, 154	112, 177	99, 682	1, 350	1, 014	459	185
Second quarter	3, 032	1, 158	112, 621	100, 077	1, 355	1, 018	461	186
Third quarter	3, 044	1, 163	113, 068	100, 474	1, 361	1, 022	462	186
Fourth quarter	3, 056	1, 168	113, 516	100, 872	1, 366	1, 026	465	187
1911.								
First quarter	3, 068	1, 172	113, 966	101, 272	1, 372	1, 030	466	188
Second quarter	3, 080	1, 177	114, 418	101, 673	1, 377	1, 034	468	189
Third quarter	3, 092	1, 182	114, 871	102, 076	1, 382	1, 038	470	189
Fourth quarter	3, 105	1, 186	115, 326	102, 481	1, 388	1, 043	472	190
1912.								
First quarter	3, 117	1, 192	115, 784	102, 886	1, 393	1, 046	474	191
Second quarter	3, 129	1, 196	116, 242	103, 295	1, 399	1, 051	476	191
Third quarter	3, 142	1, 200	116, 703	103, 704	1, 404	1, 055	478	192
Fourth quarter	3, 154	1, 205	117, 166	104, 115	1, 410	1, 059	479	193
1913.								
First quarter	3, 167	1, 210	117, 631	104, 528	1, 415	1, 063	481	194
Second quarter	3, 179	1, 215	118, 097	104, 942	1, 421	1, 067	483	195

	Chinese.		All others.		Total.		Grand total.
	Males.	Females.	Males.	Females.	Males.	Females.	
1910.							
First quarter	13, 693	400	909	366	131, 608	102, 801	234, 409
Second quarter	13, 747	402	913	367	132, 129	103, 208	235, 387
Third quarter	13, 802	403	916	369	132, 653	103, 617	236, 270
Fourth quarter	13, 856	405	920	370	133, 179	104, 028	237, 207
1911.							
First quarter	13, 911	406	923	372	133, 706	104, 440	238, 146
Second quarter	13, 966	408	927	373	134, 236	104, 854	239, 090
Third quarter	14, 022	409	931	375	134, 768	105, 269	240, 037
Fourth quarter	14, 077	411	934	376	135, 302	105, 687	240, 989
1912.							
First quarter	14, 133	413	938	378	135, 839	106, 106	241, 945
Second quarter	14, 189	414	942	379	136, 377	106, 526	242, 903
Third quarter	14, 245	416	946	381	136, 918	106, 948	243, 866
Fourth quarter	14, 302	418	949	382	137, 460	107, 372	244, 832
1913.							
First quarter	14, 359	419	953	384	138, 005	107, 798	245, 808
Second quarter	14, 416	421	957	385	138, 553	108, 225	246, 778

(The above estimate is based on the increase of population of the city between the census of 1907 and that of 1910, which amounts to 0.003963425 per quarter.)

MARRIAGES.[a]

Nationality.	Health district— No. 1.	No. 2.	No. 4.	No. 5.	No. 6.	Total marriages.	Single males married— Single females.	Widowed females.	Divorced females.	Widowed males married— Single females.	Widowed females.	Divorced females.
Americans	43	10	7	4	5	69	51	3	5	1	3	----
Filipinos	226	957	262	670	91	2,206	1,824	127	----	152	102	----
Spaniards	----	----	----	----	----	----	----	----	----	----	----	----
Other Europeans	8	1	----	3	----	12	11	1	----	----	----	----
Chinese	5	28	10	12	3	58	48	3	----	7	----	----
All others	----	----	----	----	----	----	----	----	----	----	----	----
Total	282	996	279	689	99	2,345	1,934	134	5	160	105	----

Nationality.	Divorced males married— Single females.	Widowed females.	Divorced females.	Nationality of brides. Americans.	Filipinos.	Spaniards.	Other Europeans.	Chinese.	All others.	Relationship. Blood.	Affinity.
Americans	3	----	3	42	20	2	5	----	----	----	----
Filipinos	1	----	----	----	2,206	----	----	----	----	1	----
Spaniards	----	----	----	----	----	----	----	----	----	----	----
Other Europeans	----	----	----	3	3	----	6	----	----	----	----
Chinese	----	----	----	----	58	----	----	----	----	----	----
All others	----	----	----	----	----	----	----	----	----	----	----
Total	4	----	3	45	2,287	2	11	----	----	1	--

Average per 1,000 of population, 19.

[a] Registration incomplete.

MARRIAGES BY AGE.[a]

Males. Age.	Number.	Females. To 14 years.	To 20 years.	To 25 years.	To 30 years.	To 40 years.	To 50 years.	Over 50 years.
To 14 years	----	----	----	----	----	----	----	----
To 20 years	683	3	594	68	12	5	1	----
To 25 years	977	1	664	259	38	15	----	----
To 30 years	316	1	142	110	49	12	2	----
To 40 years	257	----	80	68	61	43	5	----
To 50 years	83	----	13	10	16	33	10	1
Over 50 years	29	----	5	2	3	10	5	4
Total	2,345	5	1,498	517	179	118	23	5

[a] Registration incomplete.

BIRTHS REPORTED.

Nationality.	Males.		Females.		Total.	Annual average per 1,000.
	Number.	Annual average per 1,000.	Number.	Annual average per 1,000.		
Americans	76	23.90	91	74.95	167	38.01
Filipinos	4,507	38.16	4,158	39.62	8,665	38.84
Spaniards	24	16.88	18	16.85	42	16.87
Other Europeans	27	55.90	21	107.69	48	70.79
Chinese	78	5.41	69	163.89	147	9.90
All others	6	6.26	5	12.98	11	8.19
Total and average	4,718	34.05	4,362	40.30	9,080	36.79

[a] Registration incomplete.

BIRTHS, BY DISTRICTS.[a]

Health districts.	Legitimates.			Illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	675	621	1,296	36	28	64	1,360
No. 2, Meisic	1,038	934	1,972	52	48	100	2,072
No. 4, Sampaloc	866	764	1,630	49	58	107	1,737
No. 5, Tondo	1,289	1,251	2,540	61	46	107	2,647
No. 6, Paco	631	593	1,224	21	19	40	1,264
Total	4,499	4,163	8,662	219	199	418	9,080

Attended by physician:	
Living	1,879
Stillborn	159
Attended by midwife:	
Living	2,577
Stillborn	44
Attended by family:	
Living	4,624
Stillborn	157

[a] Registration incomplete.

BIRTH RATE, BY DISTRICTS.

Districts.	Births.	Population.	Birth rate.
No. 1, Intramuros	1,360	31,313	43.43
No. 2, Meisic	2,072	87,139	23.77
No. 4, Sampaloc	1,737	39,686	43.76
No. 5, Tondo	2,647	65,644	40.01
No. 6, Paco	1,264	22,996	54.96
Total	9,080	246,778	36.79

BIRTHS, ACCORDING TO NUMBER OF CHILDREN BORNE BY MOTHER.

Births in the order in which the child was born, whether first child, second child, etc.	Living.		Total.	Stillborn.		Total.	Grand total.
	Male.	Female.		Male.	Female.		
First	1,047	964	2,011	54	42	96	2,107
Second	835	827	1,662	21	22	43	1,705
Third	739	659	1,398	21	11	32	1,430
Fourth	563	518	1,081	23	19	42	1,123
Fifth	430	402	832	12	12	24	856
Sixth	318	318	636	17	10	27	663
Seventh	238	220	458	12	10	22	480
Eighth	186	143	329	13	11	24	353
Ninth	108	104	212	15	6	21	233
Tenth	98	76	174	6	2	8	182
Eleventh	52	51	103	4	1	5	108
Twelfth	43	38	81	4	1	5	86
Thirteenth	32	19	51	3	2	5	56
Fourteenth	13	11	24	1	--------	1	25
Fifteenth	5	4	9	2	--------	2	11
Sixteenth	6	5	11	--------	--------	--------	11
Seventeenth	4	3	7	1	--------	1	8
Eighteenth	--------	--------	--------	1	--------	1	1
Nineteenth	1	--------	1	--------	--------	--------	1
Twentieth	--------	--------	--------	1	--------	1	1
Total	4,718	4,362	9,080	211	149	360	9,440

DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS, BY NATIONALITIES.

Nationality.	Males.		Females.		Total.	Annual average per 1,000.
	Number.	Annual average per 1,000.	Number.	Annual average per 1,000.		
Americans	23	7.23	14	11.53	37	8.42
Filipinos	3,340	28.28	2,869	27.33	6,209	27.83
Spaniards	28	19.70	13	12.17	41	16.47
Other Europeans	10	20.70	5	25.64	15	22.12
Chinese	259	17.96	9	21.37	268	18.06
All others	14	14.62	3	7.79	17	12.66
Total and average	3,674	26.51	2,913	26.91	6,587	26.69

CLASSIFIED REPORT OF ALL DEATHS OCCURRING IN MANILA, INCLUDING TRANSIENTS.

Social condition.	Males.	Females.
Married	1,038	630
Divorced	2	--------
Widowed	290	456
Single	561	156
Children	2,321	1,966
Condition not stated	35	7
Total	4,247	3,215
Grand total	7,462	

Stillbirths	371
Deaths with medical attendance	4,584
Deaths without medical atttendance	2,878

DEATHS, BY AGES.

Ages.	Residents.		Transients.		Total.
	Male.	Female.	Male.	Female.	
Under 30 days	479	388	17	22	906
30 days to under 1 year	1,129	946	120	109	2,304
1 year to under 2 years	258	231	30	13	532
2 years to 4 years	172	145	11	17	345
5 years to 9 years	63	65	12	9	149
10 years to 14 years	32	20	9	3	64
15 years to 19 years	97	52	20	11	180
20 years to 29 years	265	231	99	36	631
30 years to 39 years	297	219	107	23	646
40 years to 49 years	292	144	66	22	524
50 years to 59 years	207	109	39	19	374
60 years to 69 years	164	113	23	10	310
70 years to 79 years	102	78	5	3	188
80 years to 89 years	62	98	8	4	172
90 years to 99 years	29	49	4	0	82
100 years and over	16	24	1	1	42
Age not stated	10	1	0	0	11
Total	3,674	2,913	571	302	7,460

Two bodies unidentifiable as to age and permanent residence not included.

DEATH RATE BY DISTRICTS, INCLUDING TRANSIENTS.

Districts.	Deaths.	Population.	Death rate.
No. 1, Intramuros	1,124	31,313	35.89
No. 2, Meisic	1,710	87,139	19.62
No. 4, Sampaloc	1,128	39,686	28.42
No. 5, Tondo	2,846	65,644	43.35
No. 6, Paco	654	22,996	28.43
Total	7,462	246,778	30.23

DEATHS, WITH CAUSES, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA (STILLBIRTHS NOT INCLUDED).

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.													
1. Typhoid fever			29	15					3		1		48
4. Malaria	1		26	16			1				2		46
4a. Malarial cachexia			1	2									3
6. Measles				1									1
9. Diphtheria and croup	1		6	4									11
10. Influenza			4	7	2								13
14. Dysentery	2		95	101	1			1	5		1		206
15. Plague			35	8					6	1			50
17. Leprosy			5	3									8
18. Erysipelas			7	8									15
19. Other epidemic diseases			1										1
20. Purulent infection and septichæmia			17	11							1		29
22. Anthrax			2										2
23. Rabies				1									1
24. Tetanus		1	58	63					7				129
27. Beriberi	1		476	387	1	1		1	51				918
28. Tuberculosis of the lungs			560	428	6	1			72		2	2	1071
29. Acute miliary tuberculosis			4	4			1						9
30. Tuberculous meningitis			31	30									61
31. Abdominal tuberculosis			11	8	1				1				21
32. Pott's disease			2	2									4

Deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
I. General diseases—Continued.													
33. White swellings			2	1									3
34. Tuberculosis of other organs			2	4									6
35. Disseminated tuberculosis			4	3									7
36. Rickets			4	6									10
37. Syphilis			3	2					2				7
39. Cancer and other malignant tumors of the buccal cavity			1	4	1								6
40. Cancer and other malignant tumors of the stomach, liver			9	3	1								13
41. Cancer and other malignant tumors of the peritonaeum, intestines, rectum			4										4
42. Cancer and other malignant tumors of the female genital organs				10				1					11
43. Cancer and other malignant tumors of the breast				5									5
44. Cancer and other malignant tumors of the skin			1	1									2
45. Cancer and other malignant tumors of other organs and of organs not specified			11	5					1				17
47. Acute articular rheumatism			4	4					1				9
48. Chronic rheumatism and gout			9	5									14
49. Scurvy			2	3									5
50. Diabetes				2					1				3
53. Leuchæmia			1										1
54. Anæmia, chlorosis		1	1	2									4
55. Other general diseases			1	1									2
56. Alcoholism (acute or chronic)	1		1										2
59. Other chronic poisonings									1				1
II. Diseases of the nervous system and of the organs of special sense.													
60. Encephalitis			1	2									3
61. Simple meningitis			92	111	2				2				207
63. Other diseases of the spinal cord			1	1									2
64. Cerebral hæmorrhage, apoplexy	1	1	50	43	3								98
65. Softening of the brain				3					4				7
66. Paralysis without specified cause			14	9	1				1				25
68. Other forms of mental alienation	1		1	3					1				6
69. Epilepsy			2	1									3
71. Convulsions of infants (under 5 years)		1	181	128					3	1			314
74. Other diseases of the nervous system			1										1
76. Diseases of the ears			1	1									2
III. Diseases of the circulatory system.													
77. Pericarditis				1					1				2
78. Acute endocarditis			8	9	1								18
79. Organic diseases of the heart	2	1	46	32	1	1			26		1		110
80. Angina pectoris			4	9	1								14
81. Diseases of the arteries, atheroma, aneurysm, etc			7	7					4				18
82. Embolism and thrombosis			1	2									3
84. Diseases of the lymphatic system (lymphangitis, etc.)			5										5
IV. Diseases of the respiratory system.													
87. Diseases of the larynx			1						1				2
89. Acute bronchitis	1	1	252	209	1								464
90. Chronic bronchitis			91	81	1	1			15	1			190
91. Broncho-pneumonia		2	80	58					1				141
92. Pneumonia			31	14					1				46
93. Pleurisy			14	5									19
94. Pulmonary congestion, pulmonary apoplexy			3	2			1						6
95. Gangrene of the lungs				1									1
96. Asthma			12	12									24

Deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system.													
99. Diseases of the mouth and annexa			1	1	1	1							4
100. Diseases of the pharynx			2	1		1							4
101. Diseases of the œsophagus				1					3				4
102. Ulcer of the stomach			3	1									4
103. Other diseases of the stomach (cancer excepted)			8	3					1				12
104. Diarrhœa and enteritis (under 2 years)	1	1	231	206				1	1	1	2		444
105. Diarrhœa and enteritis (2 years and over)			42	47		1	1				1		92
107. Intestinal parasites			5	3									8
108. Appendicitis and typhlitis			4	3								1	8
109. Hernias, intestinal obstruction			12	8					2				22
110. Other diseases of the intestines			6	3									9
111. Acute yellow atrophy of the liver			6	3									9
113. Cirrhosis of the liver			14	1					6				21
114. Biliary calculi			2										2
115. Other diseases of the liver			9	8									17
117. Simple peritonitis (nonpuerperal)			5	9									14
118. Other diseases of the digestive system (cancer and tuberculosis excepted)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa.													
119. Acute nephritis	1		21	12	1				2				37
120. Bright's disease	2		60	67			2		10				141
122. Other diseases of the kidneys and annexa			1	2									3
123. Calculi of the urinary passages			2										2
124. Diseases of the bladder				1									1
128. Uterine hæmorrhage (nonpuerperal)				3									3
129. Uterine tumor (noncancerous)				1									1
130. Other diseases of the uterus				3									3
131. Cysts and other tumors of the ovary				1									1
132. Salpingitis and other diseases of the female genital organs				3									3
VII. The puerperal state.													
134. Accidents of pregnancy				7									7
135. Puerperal hæmorrhage				28									28
136. Other accidents of labor				5									5
137. Puerperal septichæmia				35		1							36
138. Puerperal albuminuria and convulsions				2		1				2			5
139. Puerperal phlegmasia alba dolens, embolus, sudden death				1									1
140. Following childbirth (not otherwise defined)				1									1
VIII. Diseases of the skin and of the cellular tissue.													
142. Gangrene				1									1
143. Furuncle			6	1									7
144. Acute abscess			2	1									3
145. Other diseases of the skin and annexa			1	1									2
IX. Diseases of the bones and of the organs of locomotion.													
146. Diseases of the bones (tuberculosis excepted)			2	1					1				4
147. Diseases of the joints (tuberculosis and rheumatism excepted)				1									1

Deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
X. Malformations.													
150. Congenital malformations (stillbirths not included):													
1. Hydrocephalus	----	----	----	----	----	----	1	----	----	----	----	----	1
2. Congenital malformation of the heart	----	----	7	3	----	----	1	----	----	----	----	----	11
3. Other congenital malformations	----	----	6	5	----	----	----	----	----	----	----	----	11
XI. Diseases of early infancy.													
151. Congenital debility, icterus, and sclerema	----	----	89	54	----	1	----	----	1	1	----	----	146
1. Premature birth (not stillborn)	----	4	13	10	1	----	----	----	----	----	----	----	28
2. Congenital debility	----	----	272	208	----	----	----	----	2	2	----	----	484
152. Other causes peculiar to early infancy:													
1. Injuries at birth (not stillborn)	----	----	1	----	----	----	----	----	----	----	----	----	1
2. Other causes peculiar to early infancy	3	1	17	10	----	----	----	----	----	----	----	----	31
153. Lack of care	----	----	----	1	----	----	----	----	----	----	----	----	1
XII. Old age.													
154. Senility	----	----	104	164	1	1	1	----	2	----	----	----	273
XIII. Affections caused by external causes.													
155. Suicide by poison	1	----	----	----	----	----	----	----	1	----	----	----	2
160. Suicide by cutting or piercing instruments	----	----	1	----	----	----	----	----	1	----	----	----	2
165b. Other acute poisonings	1	----	1	1	----	1	----	----	----	----	----	----	4
167. Burns (conflagration excepted)	----	----	----	8	----	----	----	----	1	----	----	----	9
168. Absorption of deleterious gases (conflagration excepted)	----	----	1	----	----	----	----	----	----	----	----	----	1
169. Accidental drowning	----	----	10	2	----	----	----	----	2	----	----	----	14
170. Traumatism by firearms	----	----	2	----	----	----	----	----	1	----	----	----	3
171. Traumatism by cutting or piercing instruments	----	----	5	2	----	----	1	----	3	----	----	----	11
172. Traumatism by fall	----	----	1	----	----	----	----	----	----	----	----	----	1
174. Traumatism by machines	----	----	1	----	----	----	----	----	----	----	----	----	1
175. Traumatism by other crushing (vehicles, railways, land slides, etc.)	----	----	8	3	----	----	----	----	----	----	1	----	12
181. Electricity (lightning excepted)	----	----	1	----	----	----	----	----	----	----	----	----	1
183. Homicide by cutting or piercing instruments	----	----	----	1	----	----	----	----	3	----	----	----	4
184. Homicide by other means	----	----	----	1	----	----	----	----	----	----	----	----	1
185. Fractures (cause not specified)	----	----	6	2	----	----	----	----	1	----	----	----	9
186. Other external violence	----	----	1	----	----	----	----	----	----	----	----	----	1
XIV. Ill-defined diseases.													
189. Cause of death not specified or ill-defined	3	----	19	13	----	1	----	1	4	----	2	----	43
Total	23	14	3,340	2,869	28	13	10	5	259	9	14	3	6.587
Grand total	37		6,209		41		15		268		17		6,587

DEATHS, WITH CAUSES, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA (STILLBIRTHS NOT INCLUDED).

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.													
1. Typhoid fever		1	10	2					1		2	1	17
4. Malaria			14	4			1				4		23
4a. Malarial cachexia			1										1
8. Whooping cough			1										1
9. Diphtheria and croup			1	2									3
14. Dysentery	1		8	7	2		1				3		22
15. Plague			2	1									3
17. Leprosy			1	1									2
18. Erysipelas				1									1
20. Purulent infection and septichæmia			4										4
21. Glanders	1												1
24. Tetanus			6	1									7
27. Beriberi			48	45									93
28. Tuberculosis of the lungs			146	29	1		1		7		1		185
29. Acute miliary tuberculosis			1	1									2
30. Tuberculous meningitis			4	1									5
31. Abdominal tuberculosis			10	2									12
32. Pott's disease			1	1									2
34. Tuberculosis of other organs				1									1
35. Disseminated tuberculosis			3										3
37. Syphilis			1										1
40. Cancer and other malignant tumors of the stomach, liver			3	2									5
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			2										2
42. Cancer and other malignant tumors of the female genital organs				4									4
43. Cancer and other malignant tumors of the breast				2									2
45. Cancer and other malignant tumors of other organs and of organs not specified			2	4									6
48. Chronic rheumatism and gout			1										1
50. Diabetes				2									2
51. Exophthalmic goitre				1									1
53. Leuchæmia			1	1									2
54. Anæmia, chlorosis				1									1
II. Diseases of the nervous system and of the organs of special sense.													
61. Simple meningitis			15	11	1				2				29
3. Cerebrospinal fever: Epidemic cerebrospinal meningitis			1										1
63. Other diseases of the spinal cord			3										3
64. Cerebral hæmorrhage, apoplexy	1		4	3									8
68. Other forms of mental alienation	1		7	1									9
71. Convulsions of infants (under 5 years of age)			12	15									27
III. Diseases of the circulatory system.													
78. Acute endocarditis			1	1									2
79. Organic diseases of the heart	3		11	9	1	1			2				27
81. Diseases of the arteries, atheroma, aneurysm, etc			2										2
IV. Diseases of the respiratory system.													
88. Diseases of the thyreoid body				1									1
89. Acute bronchitis			25	23									48
90. Chronic bronchitis			8	8					1				17
91. Broncho-pneumonia		1	9	13		1							24
92. Pneumonia			16								2		18
93. Pleurisy				3									3
94. Pulmonary congestion, pulmonary apoplexy			2										2
95. Gangrene of the lungs			8										8
96. Asthma				2									2
98. Other diseases of the respiratory system (tuberculosis excepted)			1										1

Deaths, with causes, occurring among transients, etc.—Continued.

Causes of death.	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system.													
102. Ulcer of the stomach									1				1
104. Diarrhœa and enteritis (under 2 years)	1	3	21	17									42
105. Diarrhœa and enteritis (2 years and over)			1	3								1	5
108. Appendicitis and typhlitis			2										2
109. Hernias, intestinal obstructions			1										1
110. Other diseases of the intestines				1									1
113. Cirrhosis of the liver			4								1		5
114. Biliary calculi				1									1
115. Other diseases of the liver			5	1									6
117. Simple peritonitis (nonpuerperal)			8	5					1				14
VI. Nonvenereal diseases of the genito-urinary system and annexa.													
119. Acute nephritis			3	3					1				7
120. Bright's disease	1		11	6									18
122. Other diseases of the kidneys and annexa			2	1									3
123. Calculi of the urinary passages			3	1									4
129. Uterine tumor (noncancerous)				1									1
131. Cysts and other tumors of the ovary				2									2
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state.													
135. Puerperal hæmorrhage				1									1
136. Other accidents of labor				2									2
137. Puerperal septichæmia				1									1
138. Puerperal albuminuria and convulsions		1		1									2
VIII. Diseases of the skin and of the cellular tissue.													
142. Gangrene			1	1									2
143. Furuncle			1										1
144. Acute abscess			1										1
XI. Diseases of early infancy.													
151. Congenital debility, icterus, and sclerema			11	10									21
1. Premature birth (not stillborn)			1	1									2
2. Congenital debility			10	11									21
152. Other causes peculiar to early infancy:													
2. Other causes peculiar to early infancy			2	1									3
XII. Old age.													
154. Senility			6	6									12
XIII. Affections caused by external causes.													
165b. Other acute poisonings	1		1										2
167. Burns (conflagration excepted)			2	1									3
169. Accidental drowning	1												1
170. Traumatism by firearms				1									1
171. Traumatism by cutting or piercing instruments			1										1
172. Traumatism by fall			1										1
173. Traumatism in mines and quarries			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			3	1					1				5
176. Injuries by animals			2										2
185. Fractures (cause not specified)	1		6								1		8
186. Other external violence			8										8
XIV. Ill-defined diseases.													
187. Ill-defined organic disease				1									1
189. Cause of death not specified or ill-defined	1		3	4					1				9
Total	13	6	518	292	5	2	3		18		14	2	873
Grand total	19		810		7		3		18		16		873

DEATHS BY NATIONALITY, SEX, AND AGE.

Causes of death.	Under 30 days.												30 days to under 1 year.												1 year to under 2 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever														1																						
4. Malaria																2											2									
8. Whooping cough															1																					
9. Diphtheria and croup																1									1		2	2								
10. Influenza																4											1									
14. Dysentery															12	21									1		28	27								
15. Plague															1												1									
18. Erysipelas			2	5											3	4																				
20. Purulent infection and septichæmia				1											3	3											2									
24. Tetanus		1	45	57																								1								
27. Beriberi			46	33									1		415	336		1		1							7	9								
28. Tuberculosis of the lungs															1	2											4	5								
29. Acute miliary tuberculosis															1	1																				
30. Tuberculous meningitis															4	4											14	13								
35. Disseminated tuberculosis																1																				
36. Rickets															1	2											1	2								
37. Syphilis															2																					
49. Scurvy															1													1								
II. Diseases of the nervous system and of the organs of special sense.																																				
61. Simple meningitis			2	3	1										47	69					1						27	30	1				1			
64. Cerebral hæmorrhage, apoplexy			1												1																					
71. Convulsions of infants (under 5 years)			54	49											131	91					2					1	5	3					1	1		
76. Diseases of the ears															1	1																				
III. Diseases of the circulatory system.																																				
78. Acute endocarditis															2												1									
79. Organic diseases of the heart																					1															
82. Embolism and thrombosis			1																																	
84. Diseases of the lymphatic system (lymphangitis, etc.)			1																																	

Deaths by nationality, sex, and age—Continued.

Causes of death.	Under 30 days.												30 days to under 1 year.												1 year to under 2 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
IV. Diseases of the respiratory system.																																				
87. Diseases of the larynx																											1									
89. Acute bronchitis			10	7										1	217	175									1		34	33								
90. Chronic bronchitis															45	34											24	27								
91. Broncho-pneumonia			3	1										3	43	36		1									18	14								
92. Pneumonia				1											6	2											2									
93. Pleurisy				1											4	3											2	1								
94. Pulmonary congestion, pulmonary apoplexy			1	2																																
96. Asthma																											1	1								
V. Diseases of the digestive system.																																				
99. Other diseases of the mouth and annexa				1																																
101. Diseases of the œsophagus				1																																
103. Other diseases of the stomach (cancer excepted.)			1												2	1											2									
104. Diarrhœa and enteritis (under 2 years)		1	18	8				1					2	2	151	153						1	2			1	83	62					1			
107. Intestinal parasites																1																				
109. Hernias, intestinal obstructions															1												1									
110. Other diseases of the intestines															1												1									
111. Acute yellow atrophy of the liver															2																					
114. Biliary calculi																1																				
115. Other diseases of the liver				1											1	1											1									
117. Simple peritonitis (nonpuerperal)																											1									
VI. Nonvenereal diseases of the genito-urinary system and annexa.																																				
119. Acute nephritis													1		5	2											3	1								
120. Bright's disease															1	4											4	1								
124. Diseases of the bladder																												1								

VIII. Diseases of the skin and of the cellular tissue.																																				
143. Furuncle															2																					
144. Acute abscess															1											1										
145. Other diseases of the skin and annexa															1	1																				
IX. Diseases of the bones and of the organs of locomotion.																																				
146. Diseases of the bones (tuberculosis excepted)															1																					
X. Malformations.																																				
150. Congenital malformations (stillbirths not included):																																				
1. Hydrocephalus							1																													
2. Congenital malformation of the heart			7	3															1																	
3. Other congenital malformations			5	5																																
XI. Diseases of early infancy.																																				
151. Congenital debility, icterus and sclerema			44	16						1					55	48		1			1						1									
1. Premature birth (not stillborn)		4	14	11	1																															
2. Congenital debility			215	181					2	2					67	38																				
152. Other causes peculiar to early infancy.																																				
1. Injuries at birth (not stillborn)			1																																	
2. Other causes peculiar to early infancy	3	1	17	11											2																					
153. Lack of care				1																																
XIII. Affections caused by external causes.																																				
167. Burns (conflagration excepted)															1												1									
185. Fractures (cause not specified)																										1										
XIV. Ill-defined diseases.																																				
189. Cause of death not specified or ill-defined															1	1										5	6									
Total	3	7	488	399	2		1	1	2	3			4	7	1,237	1,043		3	1	1	5	1	2		3	2	281	241	1				3	1		
Grand total	10		887		2		2		5				11		2,280		3		2		6		2		5		522		1				4			

Deaths by nationality, sex, and age—Continued.

Causes of death.	2 years to 4 years.												5 years to 9 years.												10 years to 14 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever				1											1	2											1	1								
4. Malaria			2	4											4	2											1									
4a. Malarial cachexia			1													2																				
9. Diphtheria and croup			4	2												1																				
10. Influenza			1																																	
14. Dysentery			26	24			1								12	14				1	1						4									
15. Plague															2	1											1						1			
18. Erysipelas			1																																	
20. Purulent infection and septichæmia			1												1												2									
24. Tetanus			1												3												5									
27. Beriberi			7	3											3	4											1	3								
28. Tuberculosis of the lungs			16	4											11	10											5	4								
29. Acute miliary tuberculosis			1	2																																
30. Tuberculous meningitis			11	7											2	5											1	1								
31. Abdominal tuberculosis			1	1											1												1									
32. Pott's disease				1											1													2								
34. Tuberculosis of other organs			1	2																																
36. Rickets			1	1											1																					
44. Cancer and other malignant tumors of the skin			1																																	
47. Acute articular rheumatism				2											1													1								
49. Scurvy																1												1								
55. Other general diseases															1																					
II. Diseases of the nervous system and of the organs of special sense.																																				
60. Encephalitis				1																																
61. Simple meningitis			17	13											4	7					1															
64. Cerebral hæmorrhage, apoplexy				1												1																				
69. Epilepsy			1																								1									
71. Convulsions of infants (under 5 years)			3																																	

III. Diseases of the circulatory system.																																				
78. Acute endocarditis				2											1																					
79. Organic diseases of the heart				1												2											1									
84. Diseases of the lymphatic system (lymphangitis, etc.)			1												3																					
IV. Diseases of the respiratory system.																																				
89. Acute bronchitis			14	13											1	3																				
90. Chronic bronchitis			15	16						1					1	1																				
91. Broncho-pneumonia			11	8												1					1															
92. Pneumonia			1	3											1													1								
93. Pleurisy																1											1									
96. Asthma				1												1																				
98. Other diseases of the respiratory system (tuberculosis excepted)																											1									
V. Diseases of the digestive system.																																				
100. Diseases of the pharynx						1																					1	1								
103. Other diseases of the stomach (cancer excepted)				1																																
105. Diarrhœa and enteritis (2 years and over)			27	30								1			6	1														1						
107. Intestinal parasites			3	1											2	1																				
109. Hernias, intestinal obstructions			1	1												1												1					1			
110. Other diseases of the intestines				2											1	1											1									
111. Acute yellow atrophy of the liver			1																																	
115. Other diseases of the liver																												1								
117. Simple peritonitis (nonpuerperal)				1																							1	1								
VI. Nonvenereal diseases of the genito-urinary system and annexa.																																				
119. Acute nephritis			1	2																							1	1								
120. Bright's disease			3	1											4	2											2	1								
122. Other diseases of the kidneys and annexa																1																				
VIII. Diseases of the skin and of the cellular tissue.																																				
144. Acute abscess				1																																
IX. Diseases of the bones and of the organs of locomotion.																																				
146. Diseases of the bones (tuberculosis expected)																1																				

Deaths by nationality, sex, and age—Continued.

Causes of death.	2 years to 4 years.												5 years to 9 years.												10 years to 14 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
X. Malformations.																																				
150. Congenital malformations (stillbirths not included):																																				
3. Other congenital malformations			1																																	
XIII. Affections caused by external causes.																																				
165b. Other acute poisonings	1																																			
167. Burns (conflagration excepted)			1	3												3																				
169. Accidental drowning			1	1												1											3									
173. Traumatism in mines and quarries																											1									
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1												3												1	1								
176. Injuries by animals																											1									
185. Fractures (cause not specified)															1																					
XIV. Ill-defined diseases.																																				
187. Ill-defined organic diseases																1																				
189. Cause of death not specified or ill-defined			2	2												1											1	1								
Total	1		181	159		1	1			1		1			72	73				1	3						39	22		1			2			
Grand total	1		340		1		1		1		1				145				1		3						61		1				2			

Causes of death.	15 years to 19 years.												20 years to 29 years.												30 years to 39 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever			10	2											17	5					1		1	1			8	4					3		1	
4. Malaria			5	1									1		7	4			1				4				5	3								
4a. Malarial cachexia															1																					
6. Measles				1																																
9. Diphtheria and croup															1																					
10. Influenza			1												1																					
14. Dysentery			1	1					1		1				4	6							1		1		4	2							2	
15. Plague			5	5					1	1					12	2											13						1			
17. Leprosy															2	3											2									
19. Other epidemic diseases			1																																	
20. Purulent infection and septichæmia															6	2							1				3	2								
21. Glanders																									1											
22. Anthrax																											1									
24. Tetanus															2												4	3					3			
27. Beriberi			13	4					1						6	10					2						3	11					11			
28. Tuberculosis of the lungs			34	16					3						167	118			1		9		2				173	114	3				26			1
29. Acute miliary tuberculosis																2											1									
30. Tuberculous meningitis			2												1	1																				
31. Abdominal tuberculosis				1											3	4											7	1								
32. Pott's disease															2																					
33. White swellings															1												1									
34. Tuberculosis of other organs															1	1												1								
35. Disseminated tuberculosis			1												3	1											3	1								
36. Rickets				1																																
37. Syphilis															1																					
39. Cancer and other malignant tumors of the buccal cavity																												1								
40. Cancer and other malignant tumors of the stomach, liver																											2									
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1												1												2									
42. Cancer and other malignant tumors of the female genital organs																1												2								
43. Cancer and other malignant tumors of the breast																												1								

Deaths by nationality, sex, and age—Continued.

Causes of death.	15 years to 19 years.												20 years to 29 years.												30 years to 39 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases—Continued.																																				
45. Cancer and other malignant tumors of other organs and of organs not specified			1												2												3									
47. Acute articular rheumatism															2	1																				
48. Chronic rheumatism and gout																											1									
49. Scurvy															1																					
51. Exopthalmic goitre																												1								
53. Leuchæmia			1												1													1								
54. Anæmia, chlorosis				2												1										1	1									
55. Other general diseases																												1								
II. Diseases of the nervous system and of the organs of special sense.																																				
60. Encephalitis																1											1									
61. Simple meningitis			2												3												2						1			
3. Cerebrospinal fever: Epidemic cerebrospinal meningitis															1																					
63. Other diseases of the spinal cord			1												1												1									
64. Cerebral hæmorrhage, apoplexy			1												4	5										1	4	7								
65. Softening of the brain																												1					2			
66. Paralysis without specified cause																1											1	1								
68. Other forms of mental alienation															2	2					1				1		4	2								
69. Epilepsy				1																																
74. Other diseases of the nervous system															1																					
III. Diseases of the circulatory system.																																				
78. Acute endocarditis			1	3																								2	1							
79. Organic diseases of the heart			3	3											4	6		1			2		1		1	1	10	4					4			
80. Angina pectoris				1											1	3												1								
81. Diseases of the arteries, atheroma, aneurysm, etc																											1						1			

82. Embolism and thrombosis																1																				
IV. Diseases of the respiratory system.																																				
89. Acute bronchitis																											1									
90. Chronic bronchitis																1												1								
91. Broncho-pneumonia			1	2											4	4											2									
92. Pneumonia			5												8	2					1		2				7	1								
93. Pleurisy															1												2	1								
94. Pulmonary congestion, pulmonary apoplexy															1																					
95. Gangrene of the lungs															1												4									
96. Asthma																											2	1								
V. Diseases of the digestive system.																																				
99. Other diseases of the mouth and annexa																														1						
102. Ulcer of the stomach															1																					
105. Diarrhœa and enteritis (2 years and over)																4											5	3			1					
108. Appendicitis and typhlitis			2									1			1	1											2	2								
109. Hernias, intestinal obstructions			1												1	1											2	3								
110. Other diseases of the intestines			1													1											1									
111. Acute yellow atrophy of the liver																1												1								
113. Cirrhosis of the liver															2								1				5	1					1			
114. Biliary calculi															1																					
115. Other diseases of the liver			2												3	1											3	2								
117. Simple peritonitis (nonpuerperal)															4	4					1						4	4								
118. Other diseases of the digestive system (cancer and tuberculosis excepted)				1																																
VI. Nonvenereal diseases of the genito-urinary system and annexa.																																				
119. Acute nephritis			2	1											2	2											2	1					2			
120. Bright's disease			1	3					1						7	7									1		9	8			1					
122. Other diseases of the kidneys and annexa															2	1																				
123. Calculi of the urinary passages															1												1									
128. Uterine hæmorrhage (nonpuerperal)																2												1								
129. Uterine tumor (noncancerous)																												1								
131. Cysts and other tumors of the ovary																												1								
132. Salpingitis and other diseases of the female genital organs				1												3																				
VII. The puerperal state.																																				
134. Accidents of pregnancy																4												2								
135. Puerperal hæmorrhage				1												15												9								
136. Other accidents of labor				1												3												2								

Deaths by nationality, sex, and age—Continued.

Causes of death.	15 years to 19 years.												20 years to 29 years.												30 years to 39 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
VII. The puerperal state—Cont.																																				
137. Puerperal septichæmia				4		1										20												10								
138. Puerperal albuminuria and convulsions				1						1						1						1				1		1		1						
139. Puerperal phlegmasia alba dolens, embolus, sudden death																1																				
140. Following childbirth (not otherwise defined)																1																				
VIII. Diseases of the skin and of the cellular tissue.																																				
142. Gangrene															1																					
143. Furuncle			1												1												2	1								
144. Acute abcess															1																					
IX. Diseases of the bones and of the organs of locomotion.																																				
146. Diseases of the bones (tuberculosis excepted)																											1									
147. Diseases of the joints (tuberculosis and rheumatism excepted)																												1								
XIII. Affections caused by external causes.																																				
155. Suicide by poison													1																							
165b. Other acute poisonings				1														1							1		1									
167. Burns (conflagration excepted)																												1					1			
168. Absorption of deleterious gases (conflagration excepted)																											1									
169. Accidental drowning			2												2										1		1									
170. Traumatism by firearms				1																							1						1			
171. Traumatism by cutting or piercing instruments															3													2			1		2			
174. Traumatism by machines															1																					

175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1												4	1																				
176. Injuries by animals															1																					
181. Electricity (lightning excepted)																											1									
183. Homicide by cutting or piercing instruments																					1							1								
184. Homicide by other means																												1								
185. Fractures (cause not specified)			4												5																				1	
186. Other external violence															2												1									
XIV. Ill-defined diseases.																																				
189. Cause of death not specified or ill-defined			2										1		5	1											1	4				1	3		1	
Total	---	---	109	59	---	1	---	---	7	2	1	1	3	---	328	263	---	2	2	---	18	1	13	1	7	4	323	234	4	2	3	1	62	---	5	1
Grand total	----		168		1		----		9		2		3		591		2		2		19		14		11		557		6		4		62		6	

Deaths by nationality, sex, and age—Continued.

Causes of death.	40 years to 49 years.												50 years to 59 years.												60 years to 69 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																																				
1. Typhoid fever			2	2							1																									
4. Malaria			6	3							2				3	1			1								3									
10. Influenza				1	1																							1								
14. Dysentery	1		2	2	1				3						3	3											1	3	2							
15. Plague			2						2							1					1															
17. Leprosy			1																								1									
20. Purulent infection and septichæmia			1												1	1												1								
24. Tetanus			3	2					3							1					1						1									
27. Beriberi			7	5					24						6	7					10						6	3					3			
28. Tuberculosis of the lungs			111	84	1				34		1	1			91	48	3	1			7						65	35								
29. Acute miliary tuberculosis							1																				1									
31. Abdominal tuberculosis			3	1											3	2	1										1						1			
33. White swellings				1																																
34. Tuberculosis of other organs				1																																
37. Syphilis									1							1					1						1	1								
39. Cancer and other malignant tumors of the buccal cavity															1													3	1							
40. Cancer and other malignant tumors of the stomach, liver			1												3	1	1										3	3								
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum															1												1									
42. Cancer and other malignant tumors of the female genital organs				5												5																1				
43. Cancer and other malignant tumors of the breast																4																				
44. Cancer and other malignant tumors of the skin																1																				
45. Cancer and other malignant tumors of other organs and of organs not specified			1	2					1						4	4												3								
47. Acute articular rheumatism									1																											
48. Chronic rheumatism and gout			3	1												1											3	2								
50. Diabetes				3																	1							1								
56. Alcoholism (acute or chronic)	1		1																																	

59. Other chronic poisonings																					1															
II. Diseases of the nervous system and of the organs of special sense.																																				
61. Simple meningitis			2		1																						1									
63. Other diseases of the spinal cord															1													1								
64. Cerebral hæmorrhage, apoplexy	1		8	7	1								1		15	6	1										11	10	1							
65. Softening of the brain				1					2																											
66. Paralysis without specified cause			4	1					1						1		1										4	5								
68. Other forms of mental alienation	1		1												1																					
III. Diseases of the circulatory system.																																				
77. Pericarditis									1							1																				
78. Acute endocarditis			1	1												1												1								
79. Organic diseasesof the heart	1		10	3					13				3		6	7	2				7						14	7					1			
80. Angina pectoris				1											2		1											3								
81. Diseases of the arteries, atheroma, aneurysm, etc			1						1						2						2						1	3								
IV. Diseases of the respiratory system.																																				
87. Diseases of the larynx									1																											
88. Diseases of the thyreoid body				1																																
89. Acute bronchitis																												1								
90. Chronic bronchitis				1		1									2	5					10						7	1					6			
91. Broncho-pneumonia			3	2											1	1												2								
92. Pneumonia			10	1											3	1											1	1								
93. Pleurisy			3													1																				
94. Pulmonary congestion, pulmonary apoplexy			1																1								2									
95. Gangrene of the lungs			1												1	1											1									
96. Asthma				1											4	3											4	4								
V. Diseases of the digestive system.																																				
99. Other diseases of the mouth and annexa			1																										1							
100. Diseases of the pharynx			1																																	
101. Diseases of the œsophagus									2												1															
102. Ulcer of the stomach			1						1						1	1																				
103. Other diseases of the stomach (cancer excepted)																											3						1			
105. Diarrhœa and enteritis (2 years and over)				3												3							1				2	2								
108. Appendicitis and typhlitis			1																																	
109. Hernias, intestinal obstructions			2	1					1						1												1									
111. Acute yellow atrophy of the liver			2												1													1								
113. Cirrhosis of the liver			4						4						1						1						5									
114. Biliary calculi																											1									
115. Other diseases of the liver			3	2											1																					
117. Simple peritonitis (nonpuerperal)			1	3											1	1											1									

Deaths by nationality, sex, and age—Continued.

Causes of death.	40 years to 49 years.												50 years to 59 years.												60 years to 69 years.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
VI. Nonvenereal diseases of the genito-urinary system and annexa.																																				
119. Acute nephritis			2	2					1						1	1	1										2									
120. Bright's disease	1		11	6					4						10	9					2						10	14					3			
122. Other diseases of the kidneys and annexa																												1								
123. Calculi of the urinary passages			1												2	1																				
129. Uterine tumor (noncancerous)																1																				
130. Other diseases of the uterus				2												1																				
131. Cysts and other tumors of the ovary				1																																
VII. The puerperal state.																																				
134. Accidents of pregnancy				1																																
135. Puerperal hæmorrhage				4																																
136. Other accidents of labor				1																																
137. Puerperal septichæmia				2																																
VIII. Diseases of the skin and of the cellular tissue.																																				
142. Gangrene																1																				
143. Furuncle															1																					
IX. Diseases of the bones and of the organs of locomotion.																																				
146. Diseases of the bones (tuberculosis excepted)																																	1			
XII. Old age.																																				
154. Senility																			1								5	7		1						

XIII. Affections caused by external causes.																																				
155. Suicide by poison									1																											
160. Suicide by cutting or piercing instruments															1																					
165b. Other acute poisonings			1																																	
170. Traumatism by firearms															1																					
171. Traumatism by cutting or piercing instruments			1						1						1												1									
172. Traumatism by fall			1																																	
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)				1					1		1				1													1								
183. Homicide by cutting or piercing instruments									2																											
185. Fractures (cause not specified)	1																										1									
186. Other external violence			4												1												1									
XIV. Ill-defined diseases.																																				
189. Cause of death not specified or ill-defined	3		3	1		1			1		1				2																					
Total	10		229	163	5	2	1		107		6	1	4		182	127	11	1	3		45		1				166	121	5	1		1	16			
Grand total	10		392		7		1		107		7		4		309		12		3		45		1		......		287		6		1		16		......	

Deaths by nationality, sex, and age—Continued.

Causes of death.	70 years and over.												Unknown.												Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.																																					
1. Typhoid fever																										1	39	17					4		3	1	65
4. Malaria			2																						1		40	20			2				6		69
4a. Malarial cachexia																											2	2									4
6. Measles																												1									1
8. Whooping cough																											1										1
9. Diphtheria and croup																									1		7	6									14
10. Influenza				1	1																						4	7	2								13
14. Dysentery			6	5																					3		103	108	3		1	1	5		4		228
15. Plague																											37	9					6	1			53
17. Leprosy				1																							6	4									10
18. Erysipelas			1																								7	9									16
19. Other epidemic diseases																											1										1
20. Purulent infection and septichæmia			1	1																							21	11							1		33
21. Glanders																									1												1
22. Anthrax			1																								2										2
23. Rabies				1																								1									1
24. Tetanus																										1	64	64					7				136
27. Beriberi			4	4	1																				1		524	432	1	1		1	51				1,011
28. Tuberculosis of the lungs			26	17											2												706	457	7	1	1		79		3	2	1,256
29. Acute miliary tuberculosis			1																								5	5			1						11
30. Tuberculous meningitis																											35	31									66
31. Abdominal tuberculosis			1																								21	10	1				1				33
32. Pott's disease																											3	3									6
33. White swellings																											2	1									3
34. Tuberculosis of other organs																											2	5									7
35. Disseminated tuberculosis																											7	3									10
36. Rickets																											4	6									10
37. Syphilis																											4	2					2				8
39. Cancer and other malignant tumors of the buccal cavity																											1	4	1								6
40. Cancer and other malignant tumors of the stomach, liver			3	1																							12	5	1								18

41. Cancer and other malignant tumors of the peritonæum, intestines, rectum																											6										6
42. Cancer and other malignant tumors of the female genital organs				1																								14				1					15
43. Cancer and other malignant tumors of the breast				2																								7									7
44. Cancer and other malignant tumors of the skin																											1	1									2
45. Cancer and other malignant tumors of other organs and of organs not specified			2																								13	9					1				23
47. Acute articular rheumatism			1																								4	4					1				9
48. Chronic rheumatism and gout			3	1																							10	5									15
49. Scurvy																											2	3									5
50. Diabetes																												4					1				5
51. Exopthalmic goitre																												1									1
53. Leuchæmia																											2	1									3
54. Anæmia, chlorosis																										1	1	3									5
55. Other general diseases																											1	1									2
56. Alcoholism (acute or chronic)																									1		1										2
59. Other chronic poisonings																																	1				1
II. Diseases of the nervous system and of the organs of special sense.																																					
60. Encephalitis																											1	2									3
61. Simple meningitis																											107	122	3				4				236
3. Cerebrospinal fever: Epidemic cerebrospinal meningitis																											1										1
63. Other diseases of the spinal cord																											4	1									5
64. Cerebral hæmorrhage, apoplexy			9	8												1									2	1	54	46	3								106
65. Softening of the brain				1																								3					4				7
66. Paralysis without specified cause			4	1																							14	9	1				1				25
68. Other forms of mental alienation																									2		8	4					1				15
69. Epilepsy																											2	1									3
71. Convulsions of infants (under 5 years)																										1	193	143					3	1			341
74. Other diseases of the nervous system																											1										1
76. Diseases of the ears																											1	1									2
III. Diseases of the circulatory system.																																					
77. Pericarditis																												1					1				2
78. Acute endocarditis			3																								9	10	1								20
79. Organic diseases of the heart			9	8		1																			5	1	57	41	2	2			28		1		187
80. Angina pectoris			1																								4	9	1								14
81. Diseases of the arteries, atheroma, aneurysm, etc			4	4																							9	7					4				20
82. Embolism and thrombosis				1																							1	2									3
84. Diseases of the lymphatic system (lymphangitis, etc.)																											5										5

Deaths by nationality, sex, and age—Continued.

Causes of death.	70 years and over.												Unknown.												Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		American.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
IV. Diseases of the respiratory system.																																					
87. Diseases of the larynx																											1						1				2
88. Diseases of the thyreoid body																												1									1
89. Acute bronchitis					1																				1	1	277	232	1								512
90. Chronic bronchitis			5	2	1																						99	89	1	1			16	1			207
91. Broncho-pneumonia			2												1											3	89	71		1			1				165
92. Pneumonia			3	1																							47	14					1		2		64
93. Pleurisy			1																								14	8									22
94. Pulmonary congestion, pulmonary apoplexy																											5	2			1						8
95. Gangrene of the lungs																											8	1									9
96. Asthma			1	2																							12	14									26
98. Other diseases of the respiratory system (tuberculosis excepted)																											1										1
V. Diseases of the digestive system.																																					
99. Other diseases of the mouth and annexa																											1	1	1	1							4
100. Diseases of the pharynx																											2	1		1							4
101. Diseases of the œsophagus																												1					3				4
102. Ulcer of the stomach																											3	1					1				5
103. Other diseases of the stomach (cancer excepted)				1																							8	3					1				12
104. Diarrhœa and enteritis (under 2 years)																									2	4	252	223				1	1	1	2		486
105. Diarrhœa and enteritis (2 years and over)			3	4																							43	50		1	1				1	1	97
107. Intestinal parasites																											5	3									8
108. Appendicitis and typhlitis																											6	3								1	10
109. Hernias, intestinal obstructions			2																								13	8					2				23
110. Other diseases of the intestines																											6	4									10
111. Acute yellow atrophy of the liver																											6	3									9
113. Cirrhosis of the liver			1																								18	1					6		1		26
114. Biliary calculi																											2	1									3

115. Other diseases of the liver				1																							14	9									23
117. Simple peritonitis (nonpuerperal)																											13	14					1				28
118. Other diseases of the digestive system (cancer and tuberculosis excepted)																												1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa.																																					
119. Acute nephritis			3	2																					1		24	15	1				3				44
120. Bright's disease			9	17			1						1												3		71	73			2		10				159
122. Other diseases of the kidneys and annexa			1																								3	3									6
123. Calculi of the urinary passages																											5	1									6
124. Diseases of the bladder																												1									1
128. Uterine hæmorrhage (nonpuerperal)																												3									3
129. Uterine tumor (noncancerous)																												2									2
130. Other diseases of the uterus																												3									3
131. Cysts and other tumors of the ovary				1																								3									3
132. Salpingitis and other diseases of the female genital organs																												4									4
VII. The puerperal state.																																					
134. Accidents of pregnancy																												7									7
135. Puerperal hæmorrhage																												29									29
136. Other accidents of labor																												7									7
137. Puerperal septichæmia																												36		1							37
138. Puerperal albuminuria and convulsions																										1		3		1				2			7
139. Puerperal phlegmasia alba dolens, embolus, sudden death																												1									1
140. Following childbirth (not otherwise defined)																												1									1
VIII. Diseases of the skin and of the cellular tissue.																																					
142. Gangrene				1																							1	2									3
143. Furuncle																											7	1									8
144. Acute abscess																											3	1									4
145. Other diseases of the skin and annexa																											1	1									2
IX. Diseases of the bones and of the organs of locomotion.																																					
146. Diseases of the bones (tuberculosis excepted)																											2	1					1				4
147. Diseases of the joints (tuberculosis and rheumatism excepted)																												1									1

Deaths by nationality, sex, and age—Continued.

Causes of death.	70 years and over.												Unknown.												Total.												Grand total.
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		All others.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
X. Malformations.																																					
150. Congenital malformations (stillbirths not included):																																					
1. Hydrocephalus																															1						1
2. Congenital malformation of the heart																											7	3			1						11
3. Other congenital malformations																											6	5									11
XI. Diseases of early infancy.																																					
151. Congenital debility, icterus and sclerema																											100	64		1			1	1			167
1. Premature birth (not stillborn)																										4	14	11	1								30
2. Congenital debility																											282	219					2	2			505
152. Other causes peculiar to early infancy:																																					
1. Injuries at birth (not stillborn)																											1										1
2. Other causes peculiar to early infancy																									3	1	19	11									34
153. Lack of care																												1									1
XII. Old age.																																					
154. Senility			105	163	1				2																		110	170	1	1	1		2				285
XIII. Affections caused by external causes.																																					
155. Suicide by poison																									1								1				2
160. Suicide by cutting or piercing instruments																					1						1						1				2
165b. Other acute poisonings																									2		2	1		1							6

167. Burns (conflagration excepted)				1																							2	9					1				12
168. Absorption of deleterious gases (conflagration excepted)																											1										1
169. Accidental drowning															1						2				1		10	2					2				15
170. Traumatism by firearms																											2	1					1				4
171. Traumatism by cutting or piercing instruments																											6	2			1		3				12
172. Traumatism by fall			1																								2										2
173. Traumatism in mines and quarries																											1										1
174. Traumatism by machines																											1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)																											11	4					1		1		17
176. Injuries by animals																											2										2
181. Electricity (lightning excepted)																											1										1
183. Homicide by cutting or piercing instruments																												1					3				4
184. Homicide by other means																												1									1
185. Fractures (cause not specified)				2																	1				1		12	2					1		1		17
186. Other external violence																											9										9
XIV. Ill-defined diseases.																																					
187. Ill-defined organic diseases																												1									1
189. Cause of death not specified or ill-defined																					1				4		22	17		1		1	5		2		52
Total			219	256	5	1	1		2				1		4	1					5				36	20	3,858	3,161	33	15	13	5	277	9	28	5	7,460
Grand total			475		6		1		2				1		5						5				56		7,019		48		18		286		33		7,460

NOTE.—Two bodies unidentifiable as to sex and nationality not included.

Causes of death.	Mother's milk.		Wet nurse.		Other milk.		Not milk.		Mixed.		Under 30 days without food.	Not stated.		Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.		Under 30 days.	From 30 days to 1 year.	
Atrepsia	2	2			1	29				1			5	40
Abscess, antrum Highmore, and parotitis, acute													1	1
Aborted, 5 months												1		1
Abscess, axillary; nephritis, acute													1	1
Abscess of mastoid region and nephritis													1	1
Acute intestinal intoxication													1	1
Acute yellow atrophy of the liver		2												2
Acute stomatitis and œsophagitis												1		1
Acute confluent lobular pneumonia													1	1
Acute lobar pneumonia													2	2
Acute lobular pneumonia												1		1
Acute suppurative lymphadenitis	1													1
Acute suppurative leptomeningitis bronchopneumonia; chronic ulcerative enteritis													1	1
Acute ulcerative enteritis													1	1
Acute suppurative cellulitis with multiple intramuscular abscess													1	1
Acute nephritis, bronchopneumonia													1	1
Acute fibrinous peritonitis; acute diphtheritic enterocolitis laparotomy incision												1		1
Anencephalia											2			2
Anæmia due to umbilical hæmorrhage												1		1
Angiocholitis:														
Acute										1				1
Catarrhal	1													1
Acephalous												1		1
Asphyxia											1	3		4
Imperfect expansion of the lungs											1			1
Atrophia and intestinal catarrh													1	1
Aspiration pneumonia												1		1
Beriberi	66	620			1	56	1			15		11	63	833
Barlow's disease													1	1
Biliary calculi		1												1
Birth traumatism												2		2
Bronchitis:														
Acute (bacillus pestis isolated from spleen and bubo)						1								1
Acute	11	230			3	79				7		3	43	376
Capillary		12				11							9	32
Chronic		47				26				3			3	79
Grippal						1								1
Bronchopneumonia	1	36			1	14				4		1	25	82
Bronchopneumonia and gastroenteritis													2	2
Bronchopneumonia, stomatitis, and diphtheria													1	1
Burns, second degree													1	1
Cause undetermined, possibly inanition													1	1
Cranial hæmorrhage and hydrocephalus											1			1
Cerebral hæmorrhage												1		1
Capillary bronchitis, acute enteritis													1	1
Cerebrospinal meningitis													1	1
Convulsions of children	78	157	1		14	52	1		1	2	1	7	13	327
Congenital debility	199	49			39	55	17		7	5	66	72	4	513
Congenital debility, due to prematurity												3		3
Congenital anomalies												1		1
Congenital atelectasis												2		2
Congenital heart disease											1	2		3
Congenital debility, lack of care					1									1
Convulsions, umbilical infection												1		1
Colibacilar fever						1				1				2
Consumption													1	1
Colitis, acute, catarrhal												1	1	2
Colic, intestinal		1				1								2
Congestion, cerebral and pulmonary, due to prolonged labor												1		1

Infant mortality—Continued.

Causes of death.	Mother's milk.		Wet nurse.		Other milk.		Not milk.		Mixed.		Under 30 days without food.	Not stated.		Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.		Under 30 days.	Form 30 days to 1 year.	
Congenital unperforated anus												1		1
Chronic dyspepsia						1								1
Dysentery													1	1
Acute		5				14				2			2	23
Bacillary						4								4
Chronic						3				1			1	5
Deformity, congenital (acrania)												1		1
Dyspepsia, gastrointestinal	1					1				1				3
Diphtheritic colitis													1	1
Diarrhœa and enteritis:														
Acute	2	7			1	25			1	1			1	38
Chronic		2				7								9
Enteritis:														
Acute		8			1	24				2			8	43
Chronic		4				12				1				17
Enterocolitis:														
Acute						5						1	4	10
Chronic		2				1								3
Chronic, and malnutrition						1								1
Encephalocele												1		1
Erysipelas	3	5	1			1						3	1	14
Exhaustion, cerebral anæmia						1								1
Eczema, dry, generalized		1												1
Empyema													1	1
Furunculosis		1											1	2
Granulia													1	1
Gastritis, acute		1											1	2
Gastritis and acute bronchitis													1	1
Gastric convulsions												1		1
Gastroenteritis:														
Acute	4	30			7	45				8		3	28	125
Chronic		3				21				2			6	32
Gastroenterocolitis, chronic													1	1
General tuberculosis, miliary		1												1
General weakness (twin)												1		1
Great lack of development (twin)												1		1
Grippe		1				2								3
General tuberculosis													1	1
Hæmorrhage, spontaneous from the mouth												1		1
Hæmorrhage into the adrenals												1		1
Hæmorrhagia neonatorum, gastric												1		1
Hæmorrhage of the lungs												1		1
Hæmorrhage of brain meninges, acute nephritis													1	1
Hæmorrhagic disease of the newborn; adrenal apoplexy												1		1
Hæmothorax												1		1
Herniotomy wound													1	1
Heredosyphilis		1												1
Hypertrophy and dilatation of right side of heart													1	1
Heart disease; pulmonary stenosis; congenital												1	1	2
Incompetent foramen ovale												1		1
Inanition					2						1		1	4
Intestinal parasites						1								1
Ileocolitis; bronchopneumonia												1	2	3
Infantile atrophy												1	4	5
Intrauterine asphyxia											3			3
Icterus	32	7			5	2						2		48
Catarrhal		1												1
Intestinal infection												1		1
Immaturity												1		1
Ludwig's disease; bronchopneumonia													1	1
Lithiasis, biliary, and icterus		1												1
Lobular pneumonia													2	2
Marasmus and malnutrition						1								1
Malnutrition and eczema		1												1
Marasmus	5	18			7	43				5		1	4	83
Malaria		2												2
Marasmus due to dermatitis (scabies)		1												1

Infant mortality—Continued.

Causes of death.	Mother's milk.		Wet nurse.		Other milk.		Not milk.		Mixed.		Under 30 days without food.	Not stated.		Total.
	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.	Under 30 days.	From 30 days to 1 year.		Under 30 days.	From 30 days to 1 year.	
Malnutrition		2			5	6			1				1	15
Malformation, cardiac	1										1			2
Melena neonatorum												1		1
Meningitis:														
Acute	3	47			1	27				8		1	6	93
Simple		12		1		2						1	3	19
Myocarditis		1				1								2
Myocarditis and nephritis		1												1
Meningitis:														
Cerebral, acute		5				1								6
Acute, due to otitis media						1								1
Morbus caeruleus												1		1
Muguet	1													1
Multiple congenital anomalies												1		1
Multiple cutaneous abscess, marasmus													1	1
Nephritis:														
Acute		3				1				1			2	7
Chronic		1				2								3
Otic meningitis		1												1
Otitis, suppurative		1												1
Omphalitis neonatorum	2					1								3
Omphalorrhagia												1		1
Pachymeningitis, cerebral													1	1
Pleurisy		2				1							1	4
Pleurisy, purulent						1							1	2
Parrot's disease						1								1
Premature by birth											6	19		25
Pneumonia		5												5
Croupous						1								1
Pulmonary tuberculosis		1											1	2
Pulmonary congestion	1											1	1	3
Purulent infection		2												2
Rickets						2							1	3
Streptococchæmia. furunculosis													1	1
Severe infection of skin of whole body													1	1
Sepsis from multiple cutaneous abscess													2	2
Septichæmia neonatorum	1													1
Subserous hæmorrhages, pial oedema, patent ductus arteriosus												1		1
Tetanus, umbilical	71				10		1					21		103
Thrombosis of hypogastric vein; hæmoperitonæum												1		1
Typhoid fever													1	1
Tuberculous meningitis		5				2							1	8
Umbilical hæmorrhage	7											3	1	11
Whooping cough													1	1
Total	493	1,349	2	1	99	591	20		10	71	84	198	292	3,210

COMPARATIVE MORTALITY FROM JANUARY, 1901, TO JUNE, 1913, INCLUSIVE.

Month.	1901		1902		1903		1904	
	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.
January	753	[a]36.25	760	[a]36.58	602	[a]28.98	796	[b]42.64
February	689	[a]36.72	706	[a]37.63	511	[a]27.23	709	[b]40.59
March	885	[a]42.60	770	[a]37.06	539	[a]25.94	751	[b]40.23
April	886	[a]44.07	1,327	[a]66.01	549	[a]27.31	748	[b]41.40
May	903	[a]43.47	1,688	[a]81.26	770	[a]37.06	766	[b]41.03
June	621	[a]30.89	1,418	[a]70.54	592	[a]29.45	800	[b]44.28
July	608	[a]29.27	2,223	[a]107.02	620	[b]33.21	866	[b]46.39
August	702	[a]33.79	1,712	[a]82.41	862	[b]46.17	1,032	[b]55.28
September	767	[a]38.15	1,132	[a]56.31	1,228	[b]67.97	1,064	[b]58.89
October	855	[a]41.16	927	[a]44.62	1,217	[b]65.19	1,018	[b]54.53
November	848	[a]42.18	1,035	[a]51.48	974	[b]53.91	957	[b]52.97
December	858	[a]41.30	753	[a]36.25	894	[b]47.89	794	[b]42.53
Total	9,375	[a]38.30	14,451	[a]59.04	9,358	[b]40.27	10,301	[b]46.83

Month.	1905		1906		1907		1908	
	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.
January	685	[b]36.69	737	[b]39.48	632	[c]33.31	1,117	[c]58.87
February	608	[b]36.05	595	[b]35.28	473	[c]27.60	733	[c]41.29
March	563	[b]30.15	600	[b]32.14	464	[c]24.45	720	[c]37.94
April	530	[b]29.33	555	[b]30.72	416	[c]22.65	626	[c]34.09
May	526	[b]28.17	600	[b]32.14	462	[c]24.35	633	[c]33.36
June	593	[b]32.82	693	[b]38.36	402	[c]21.89	678	[c]36.92
July	747	[b]40.01	1,451	[b]77.72	515	[c]27.14	977	[c]51.49
August	841	[b]45.05	1,182	[b]63.31	653	[c]34.41	1,148	[c]60.50
September	1,013	[b]56.07	835	[b]46.22	768	[c]41.82	1,362	[c]74.17
October	850	[b]45.53	684	[b]36.64	877	[c]46.22	991	[c]52.23
November	944	[b]52.25	653	[b]36.14	725	[c]39.48	837	[c]45.58
December	841	[b]45.05	597	[b]31.98	900	[c]47.43	824	[c]43.42
Total	8,741	[b]39.74	9,182	[b]41.74	7,287	[c]32.59	10,646	[c]47.62

Month.	1909		1910		1911		1912		1913	
	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.
January	720	[c]37.94	729	[d]36.64	653	[d]32.82	698	[d]35.09	502	[d]25.23
February	616	[c]35.94	638	[d]35.50	536	[d]29.82	611	[d]32.82	445	[d]24.76
March	618	[c]32.57	642	[d]32.26	574	[d]28.85	732	[d]36.79	451	[d]22.66
April	550	[c]29.95	594	[d]30.85	547	[d]28.40	671	[d]34.85	442	[d]22.95
May	544	[c]28.67	604	[d]30.35	609	[d]30.60	701	[d]35.23	504	[d]25.33
June	552	[c]30.06	646	[d]33.55	693	[d]35.99	605	[d]31.42	442	[d]22.95
July	691	[c]36.41	799	[d]40.15	830	[d]41.71	689	[d]34.63		
August	679	[c]35.78	731	[d]36.74	878	[d]44.13	705	[d]35.43		
September	649	[c]35.34	664	[d]34.48	741	[d]38.48	661	[d]34.33		
October	700	[c]36.89	705	[d]35.43	686	[d]34.48	633	[d]31.81		
November	778	[c]42.37	642	[d]33.34	782	[d]40.61	573	[d]29.76		
December	839	[c]44.21	635	[d]31.91	698	[d]35.08	540	[d]27.14		
Total	7,936	[c]35.50	8,029	[d]34.25	8,227	[d]35.09	7,819	[d]33.35		

[a] Death rate computed on population of 244,732 (Census of the Health Department).
[b] Death rate computed on population of 219,941 (official census, 1903).
[c] Death rate computed on population of 223,542 (Bureau of Health census, 1907).
[d] Death rate computed on population of 234,409 (Bureau of Health census, 1910).

MORTALITY COMPARED WITH SAME PERIOD OF PREVIOUS YEARS.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.	Deaths.	Annual death rate per 1,000.
1901	2,327	38.58	2,410	39.52	2,077	33.69	2,561	41.54
1902	2,236	37.07	4,433	72.70	5,067	82.19	2,715	44.04
1903	1,652	27.39	1,911	31.34	2,710	48.91	3,085	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,932	35.64	1,848	33.72	3,468	62.59	1,934	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.43
1908	2,570	46.14	1,937	34.77	3,487	61.92	2,652	47.09
1909	1,954	35.47	1,646	29.55	2,019	35.85	2,317	41.14
1910	2,009	34.78	1,844	31.57	2,194	37.15	1,982	33.56
1911	1,763	30.52	1,849	31.65	2,449	41.47	2,166	36.68
1912	2,041	34.94	1,977	33.85	2,055	34.80	1,746	29.57
1913	1,398	24.20	1,388	23.76				

TUBERCULOSIS CASES REPORTED IN MANILA DURING THE FISCAL YEAR 1912-13.[a]

Nationality.	Health districts.										Total
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Americans				1							1
Filipinos	118	77	230	216	120	89	320	267	69	66	1,572
Spaniards	1				1						2
Other Europeans	1										1
Chinese	2		3				2				7
All others			2								2
Total	122	77	235	217	121	89	322	267	69	66	1,585

Also reported 447 provincial cases; and 5 permanent residence unknown.

[a] Incomplete.

REPORT OF PRESCRIPTIONS FILLED AT THE CENTRAL FREE DISPENSARY.

Health districts.	Americans.				Foreigners.			
	Adults.		Children.		Adults.		Children.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros	2,950	889		12	109			
No. 2, Meisic	40	4			2			
No. 4, Sampaloc	69	36						
No. 5, Tondo	12							
No. 6, Paco	12	4						
Provincial								
Total	3,083	933		12	111			

Health districts.	Filipinos.				Chinese.				Total.
	Adults.		Children.		Adults.		Children.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
No. 1, Intramuros	13,426	7,503	1,458	1,148	6				27,501
No. 2, Meisic	1,562	1,030	229	226	64				3,157
No. 4, Sampaloc	2,187	1,384	1,381	796					5,853
No. 5, Tondo	1,084	882	280	277					2,535
No. 6, Paco	77	32	37	27					189
Provincial	9	2							11
Total	18,345	10,833	3,385	2,474	70				39,246

REPORT OF SICK AND WOUNDED POOR ATTENDED BY MUNICIPAL PHYSICIANS.

Health districts and physicians.	Americans.				Foreigners.				Filipinos.			
	Adults.		Children.		Adults.		Children.		Adults.		Children.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros, Dr. V. Cavanna	3				18	2	1	1	1,711	1,755	676	596
No. 2, Meisic, Drs. F. Herrera and C. Reyes	14		2						361	187	124	110
No. 4, Sampaloc, Dr. F. Castañeda									579	1,012	697	693
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	4				5				1,381	937	755	547
No. 6, Paco:												
Dr. J. B. Cabarrus						1			154	109	88	45
Dr. Tee Han Kee									20	15	33	23
Total	21		2		23	3	1	1	4,206	4,015	2,373	2,014

Health districts and physicians.	Chinese.				Total.	Cured.		Deaths.		Visits.
	Adults.		Children.							
	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	
No. 1, Intramuros, Dr. V. Cavanna	1				4,764	1,029	952	23	16	10,985
No. 2, Meisic, Drs. F. Herrera and C. Reyes	14		1		813	409	222	3	4	3,527
No. 4, Sampaloc, Dr. F. Castañeda					2,981	139	213	56	66	3,684
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	22			1	3,652	1,018	691	10	7	6,090
No. 6, Paco:										
Dr. J. B. Cabarrus	1				398	138	98	12	4	999
Dr. Tee Han Kee	326		17		434	305	34			1,758
Total	364		18	1	13,042	3,038	2,210	104	97	27,038

REPORT ON THE PHYSICAL DEFECTS IN SCHOOL CHILDREN.

Diseases found.	Boys.	Girls.	Disposition of cases.				Total.
			Excluded.	Sent to dispensary.	No treatment.	Refused treatment.	
To be excluded:							
Pertussis							
Mumps	1		1	1			1
Tuberculosis, incipient	93	72		164	1		165
Measles							
Infectious eye cases, except trachoma							
Pediculosis with live pediculi		1	1	1			1
Scabies	49	11	3	60			60
Infectious skin cases							
Favus	9	2	6	11			11
Other communicable infectious diseases							
Not to be excluded:							
Pediculosis, no live pediculi	3	8		11			11
Adenoids	39	7		37	9		46
Tonsils, hypertrophied	192	122		78	236		314
Conjunctivitis, acute	98	27		111	14		125
Trachoma	211	35		246			246
Myopia	120	39		88	71		159
Other eye affections—							
Astigmatism	27	3		28	2		30
Blind	10	3			13		13
Cataract	2	1		2	1		3
Ophthalmitis	2			2			2
Pterygium	9			6	3		9
Strabismus	9	4		5	8		13
Ear affections, deaf	14	10			24		24
Defects of hearing	262	51		178	135		313
Discharge from one ear	27	4		31			31
Discharge from both ears	4	1		5			5
Adenitis	34	26		55	5		60
Tinea	633	100		361	372		733
Dental caries	1,695	1,112		312	2,477	18	2,807
Bodily deformities	40	7		7	39	1	47
Mental defects	2			2			2
Backward development	15	3		6	12		18
Other diseases—							
Anæmia	13	4		17			17
Appendicitis	1			1			1
Bronchitis	497	214		497	214		711
Dengue	3			3			3
Dysentery	1			1			1
Gastritis	2			2			2
Goitre		1		1			1
Malaria	1			1			1
Myalgia	2	3		5			5
Otitis media	4			4			4
Pleurisy	3			3			3
Vaccinations required	190	165					355
Vaccinations made							
Total	4,317	2,036	11	2,343	3,636	19	6,353

Total number of children examined, 21,688.

CITY MORGUE REPORT.

Disposition.	Bodies.	Disposition.	Bodies.
Remaining from last year	16	Transferred to Government Museum (fœtuses)	6
Received	789	Transferred to private morgues	2
Total	805	Transferred to provinces	7
		Remaining at the end ofthe year	30
Buried by city	408		
Buried by family	343	Total	805
Transferred to Army morgue	9		

DISPOSITION OF DEAD BODIES.

Disposition.	Number.	Disposition.	Number.
Buried:		Buried—Continued.	
Balicbalic Cemetery	934	Singalong Cemetery	545
Binondo Cemetery	207	Tondo Cemetery	1,140
Chinese Cemetery	309	Otherwise disposed of:	
Malate Cemetery	188	Cremated	38
Norte Cemetery	3,847	Remaining in city morgue	30
Paco Cemetery	211	Remaining in private morgues	1
Pandacan Cemetery, Filipino Church	101	Shipped to the United States	14
Pandacan Cemetery, Roman Catholic	32	Transferred to Government Museum (fœtuses)	2
Santa Ana Cemetery	114	Transferred to provinces	114
Santa Cruz Cemetery	60	Total	7,887

In the above total there are included 371 stillbirths, 16 remaining in the city morgue from last year, and 38 bodies brought from the provinces.

DISINTERMENTS.

Cemeteries.	Number.	Cemeteries.	Number.
Balicbalic	49	Paco	149
Binondo	226	San Sebastian Church	1
Chinese	97	Santa Cruz	30
Loma	4	Tondo	9
Malate	3		
Norte	10	Total	578

REPORT OF CREMATIONS AT PALOMAR CREMATORY.

Animals cremated:	
American horses	1
Australian horses	4
Calves	6
Carabao	2
Cats	655
China mules	1
Cows	13
Deer	8
Dogs	530
Fowls	2,149
Goats	58
Native ponies	20
Pigs	743
Rats	31
Leopards	1
Total	4,222
Refuse cremated, cart loads:	
Books from Macondray & Co	1
Coal dust (fire station)	4
Condemned goods	240
Fire refuse	16
Garbage	33
Harness from city stables No. 1	1
Market refuse	4
Market tickets	3
Manure	21
Organic matter	322
Rubbish	26
Sewer screenings	730
Slops	2,011
Trade refuse	1,936
Total	5,348

Also collected 23,075 pails of garbage for cremation.

REPORT OF OPERATIONS OF THE PAIL CONSERVANCY SYSTEM.

NIGHT SOIL COLLECTIONS.

Where cleaned.	Installations.	Installations in use.	Pails in use.	Pails cleaned.
Private houses	6,670	1,389	1,735	617,445
Public buildings	146	133	155	55,599
Midden sheds	216	209	2,043	758,356
Insular Bureaus	43	9	29	10,379
Military buildings	41	5	49	15,473
Total	7,116	1,745	4,011	1,457,252

CLEANED BY ODORLESS EXCAVATORS.

Where cleaned.	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	1,504	2,305	1,035,500
Public buildings	37	69	32,000
Insular Bureaus	20	52	27,000
Military buildings	1	21	10,500
Total	1,562	2,447	1,105,000

GENERAL INSPECTIONS OF HOUSES, PREMISES, VAULTS, ETC.

1. Inspections of houses by sanitary inspectors	26,861
2. Inspections of houses by assistant sanitary inspectors and sanitary policemen	445,657
3. Houses recommended condemned and removed	79
4. Houses condemned and removed	10
5. Samples of water, foods, etc., sent to laboratory	7,436
6. Persons reported sick to municipal physicians	16,297
7. Cesspools and vaults ordered cleaned	75
8. Yards ordered repaired (repaved, etc.)	70
9. Average number of food tiendas in the districts	2,579
10. Persons convicted for violation of food prohibition orders	355
11. Lepers sent to San Lazaro Hospital	81

REPORT OF DISINFECTIONS.

A total of 11,402 disinfections, for the various forms of dangerous communicable diseases, were made during the year. During the disinfections 2,446 contacts were encountered.

REPORT OF ACTION TAKEN ON APPLICATIONS FOR LICENSES.

Approved	8,819
Disapproved	311
Total acted upon	9,130

SECTION 2.—STATISTICS FOR THE PHILIPPINE ISLANDS GENERALLY.

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GENERAL RETURN OF BIRTHS AND DEATHS IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1912.

Provinces.	Average of population.	Births.	Annual birth rate per 1,000.	Deaths.											
				From 0 to 1 year.	From 1 to 2 years.	From 2 to 5 years.	From 5 to 10 years.	From 10 to 20 years.	From 20 to 30 years.	From 30 to 40 years.	From 40 to 50 years.	From 50 to 60 years.	Over 60 years.	Unknown.	Total.
Abra	60,667	1,986	32.73	182	66	44	34	63	90	79	71	67	178	-------	874
Agusan	20,639	564	27.32	74	19	32	17	14	32	13	21	15	22	-------	259
Albay	247,680	11,465	46.28	1,809	844	840	382	508	694	355	372	293	734	-------	6,831
Ambos Camarines	248,856	9,235	37.10	1,362	606	642	363	558	832	488	475	366	790	10	6,492
Antique	133,142	4,899	36.79	635	372	498	185	128	165	138	130	130	342	-------	2,723
Bataan	47,230	2,163	45.79	635	220	226	68	68	178	105	98	78	195	-------	1,871
Batanes	8,153	280	34.34	56	6	16	4	4	8	5	8	11	31	-------	149
Batangas	307,976	13,668	44.38	3,409	953	857	274	318	632	403	375	407	930	1	8,559
Bohol	269,223	12,472	46.32	2,110	874	1,242	833	692	785	361	376	497	1,213	9	8,992
Bulacan	225,757	9,917	43.92	2,489	750	854	300	249	621	378	360	343	833	-------	7,177
Cagayan	141,470	5,632	39.81	1,285	507	596	222	217	316	229	260	227	441	-------	4,300
Capiz	210,000	7,939	37.80	1,394	713	1,142	735	383	320	278	312	333	906	3	6,519
Cavite	137,520	5,317	38.66	1,438	473	572	152	169	342	233	223	216	457	1	4,276
Cebu	653,727	31,045	47.48	4,268	1,953	2,012	1,124	1,181	1,228	892	846	859	1,820	20	16,203
Ilocos Norte	178,095	8,448	47.43	962	311	332	187	239	284	195	207	223	659	4	3,603
Ilocos Sur	181,005	7,406	40.91	1,091	276	281	149	217	305	275	213	185	496	3	3,491
Iloilo	413,933	16,759	40.48	2,835	1,564	1,761	818	632	782	574	531	492	1,137	26	11,152
Isabela	74,053	3,108	41.96	606	231	233	105	122	171	125	124	115	223	10	2,065
Laguna	149,535	7,405	49.52	1,845	611	504	196	244	550	350	301	289	504	6	5,400
Leyte	503,659	16,776	33.30	1,726	726	872	587	565	659	492	402	374	826	59	7,288
Misamis	132,601	5,454	41.13	1,125	458	467	325	302	342	237	195	166	356	5	3,978
Nueva Ecija	132,999	6,148	46.22	1,184	416	459	183	193	331	255	214	164	459	-------	3,858
Nueva Vizcaya	20,473	854	41.71	164	49	75	31	37	93	75	46	58	75	-------	703
Occidental Negros	304,668	11,968	39.28	1,926	1,015	1,512	570	518	683	490	447	431	751	19	8,362
Oriental Negros	184,889	7,125	38.53	1.680	965	1,052	581	461	480	354	404	347	973	1	7,298
Pampanga	225,113	11,593	51.49	3,237	803	910	288	170	535	397	324	313	760	-------	7,737
Pangasinan	441,816	21,706	49.12	3,452	1,372	1,691	673	668	1,296	704	626	598	1,476	-------	12,556
Rizal	152.084	7,592	49.91	2,159	497	409	173	162	433	310	259	248	633	19	5,302
Romblon	57,253	1,990	34.75	379	234	274	160	106	150	96	90	108	177	-------	1,774
Samar	139,549	6,045	43.31	522	314	255	239	212	257	147	239	235	505	7	2,932
Surigao	83,946	2,140	25.49	311	121	126	75	89	99	69	74	51	125	2	1,142
Tarlac	139,971	6,975	49.83	1,239	273	336	140	140	287	196	186	172	411	2	3,382
Tayabas	201,936	7,386	36.57	1,661	476	456	251	290	488	401	350	316	707	6	5,402
Union	131,757	5,632	42.74	680	202	230	101	127	183	120	104	103	423	1	2,274
Zambales	62,108	2,650	42.66	439	233	246	75	117	157	108	85	98	165	2	1,725
Total and average	6,623,483	281,742	42.53	50,369	19,503	22,054	10,600	10,163	14,808	9,927	9,348	8,928	20,733	216	176,649

GENERAL RETURN OF BIRTHS AND DEATHS (WITH CAUSES) IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS DURING THE CALENDAR YEAR 1912.

Causes of death.	Abra.	Agusan.	Albay.	Ambos Camarines.	Antique.	Bataan.	Batanes.
Typhoid fever (abdominal typhus)	10	8	11	114	8	28	
Malarial fever	353	14	639	1,328	422	165	
Malarial cachexia	15	45	72	7	10	70	
Smallpox							
Measles			101	43	37	49	
Whooping cough	22	4	33	85	50	5	
Cholera, Asiatic							
Dysentery	14	18	701	676	634	166	5
Beriberi		10	173	88	5	19	
Tuberculosis of the lungs	96	20	551	646	349	119	9
Tuberculosis of other organs			3			3	
Cancer and other malignant tumors	2	1	1	20	8	10	2
Congestion and hæmorrhage of the brain	3	1	19	10		6	
Convulsions of children	3	42	917	474	104	300	4
Acute bronchitis	25		324	117	43	42	2
Diarrhœa and enteritis (under 2 years)	6	1	233	82	147	17	3
Chronic diarrhœa and enteritis	3						
Diarrhœa and enteritis (2 years and over)	10	1	94	102	68	19	2
Diseases of the puerperal state	14	3	185	141	29	27	4
Violence:							
Suicide			15	8	1	3	
Not suicide	13	6	37	22	42	11	1
Other diseases	285	85	2,722	2,529	766	812	117
Total	874	259	6,831	6,492	2,723	1,871	149
Males	448	147	3,541	3,392	1,400	1,022	67
Females	426	112	3,290	3,100	1,323	849	82
Annual death rate per 1,000	14.40	12.54	27.57	26.08	20.45	39.61	18.27
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	155	34	735	781	261	195	19
Widowers	52	8	371	454	106	93	
Single	35	16	371	392	87	77	3
Boys	203	86	2,064	1,763	946	657	45
Condition not stated	3	3		2			
Females:							
Married	133	31	642	735	225	191	14
Widows	90	20	464	568	208	115	19
Single	46	3	347	336	126	33	9
Girls	157	58	1,836	1,457	764	510	40
Condition not stated			1	4			

Causes of death.	Batangas.	Bohol.	Bulacan.	Cagayan.	Capiz.	Cavite.	Cebu.
Typhoid fever (abdominal typhus)	122	70	87	1	19	20	193
Malarial fever	1,248	1,115	621	1,124	771	513	1,072
Malarial cachexia	338	184	33	64	78	245	357
Smallpox	2	10		1			213
Measles	117	25	44	4	255	52	180
Whooping cough	40	264	18	5	159	9	376
Cholera, Asiatic							
Dysentery	612	1,035	292	305	1,925	176	2,497
Beriberi	140	107	287	72	59	60	528
Tuberculosis of the lungs	733	375	960	284	514	228	474
Tuberculosis of other organs	6	16	1	18	4	156	627
Cancer and other malignant tumors	27	28	16	4	13	16	139
Congestion and hæmorrhage of the brain	41	13	53	3	4	26	17
Convulsions of children	1,267	264	2,155	618	236	938	147
Acute bronchitis	249	74	113	33	92	70	69
Diarrhœa and enteritis (under 2 years)	127	17	68	15	101	102	221
Chronic diarrhœa and enteritis	36		70			30	57
Diarrhœa and enteritis (2 years and over)	21	16	76	65	69	51	302
Diseases of the puerperal state	128	108	85	60	54	46	190
Violence:							
Suicide	13	15	2	17	10	11	71
Not suicide	48	72	53	30	69	28	265
Other diseases	3,244	5,184	2,143	1,577	2,087	1,499	8,208
Total	8,559	8,992	7,177	4,300	6,519	4,276	16,208

General return of births and deaths (with causes), etc.—Continued.

Causes of death.	Batangas	Bohol.	Bulacan.	Cagayan.	Capiz.	Cavite.	Cebu.
Males	4,398	4,609	3,767	2,317	3,290	2,285	8,786
Females	4,161	4,383	3,410	1,983	3,229	1,991	7,417
Annual death rate per 1,000	27.79	33.39	31.79	30.39	31.04	31,09	24.78
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	819	820	734	455	557	426	1,739
Widowers	298	349	362	242	287	200	778
Single	240	458	249	163	206	151	902
Boys	3,033	2,962	2,421	1,454	2,228	1,487	5,367
Condition not stated	8	20	1	3	12	21	-------
Females:							
Married	773	795	647	396	457	384	1,484
Widows	585	601	510	291	570	318	891
Single	275	624	223	84	273	88	850
Girls	2,519	2,345	2,029	1,210	1,919	1,168	4,192
Condition not stated	9	18	1	2	10	33	-------

Causes of death.	Ilocos Norte.	Ilocos Sur.	Iloilo.	Isabela.	Laguna.	Leyte.	Misamis.
Typhoid fever (abdominal typhus)	-------	-------	24	6	141	8	111
Malarial fever	948	772	661	320	782	1,111	478
Malarial cachexia	-------	-------	494	92	178	204	138
Smallpox	-------	-------	-------	-------	-------	295	6
Measles	2	-------	79	2	15	25	14
Whooping cough	18	18	157	17	75	71	45
Cholera, Asiatic	-------	-------	-------	-------	-------	-------	-------
Dysentery	199	211	2,192	79	330	325	877
Beriberi	36	30	50	52	63	99	146
Tuberculosis of the lungs	323	254	1,666	186	448	435	257
Tuberculosis of other organs	123	126	75	16	3	11	7
Cancer and other malignant tumors	-------	14	31	-------	17	13	26
Congestion and hæmorrhage of the brain	-------	4	42	6	35	11	4
Convulsions of children	436	399	2,044	218	828	351	198
Acute bronchitis	23	44	201	47	86	65	-------
Diarrhœa and enteritis (under 2 years)	17	66	334	17	72	60	36
Chronic diarrhœa and enteritis	6	14	-------	-------	54	26	9
Diarrhœa and enteritis (2 years and over)	65	80	308	5	64	123	14
Diseases of the puerperal state	57	94	131	27	79	153	56
Violence:							
Suicide	5	10	18	1	4	18	11
Not suicide	-------	14	53	18	54	80	16
Other diseases	1,345	1,341	2,592	956	2,072	3,804	1,529
Total	3,603	3,491	11,152	2,065	5,400	7,288	3,978
Males	1,872	1,894	6,019	1,094	2,812	3,986	2,189
Females	1,731	1,597	5,133	971	2,588	3,302	1,789
Annual death rate per 1,000	20.23	19.28	26.94	27.88	36.11	14.47	29.99
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	496	441	896	249	608	838	454
Widowers	225	234	583	96	243	357	153
Single	178	159	446	135	237	360	186
Boys	973	1,059	4,078	607	1,687	2,277	1,394
Condition not stated	-------	1	16	7	37	154	2
Females:							
Married	416	407	902	234	626	700	375
Widows	372	287	792	131	394	413	183
Single	166	159	335	56	160	251	109
Girls	775	743	3,094	542	1,383	1,800	1,120
Condition not stated	2	1	10	8	25	138	2

General return of births and deaths (with causes), etc.—Continued.

Causes of death.	Nueva Ecija.	Nueva Vizcaya.	Occidental Negros.	Oriental Negros.	Pampanga.	Pangasinan.	Rizal.
Typhoid fever (abdominal typhus)	19	12	31	24	131	341	56
Malarial fever	563	155	1,198	1,326	687	1,937	304
Malarial cachexia	137	10	169	19	222	363	119
Smallpox	1		4	2			5
Measles	22		253	41	276	14	24
Whooping cough	18	2	46	156	22	104	16
Cholera, Asiatic							
Dysentery	327	12	817	1,881	317	980	160
Beriberi		13	82	291	177	68	338
Tuberculosis of the lungs	538	72	878	280	917	1,440	417
Tuberculosis of other organs	3		2	1	1	10	17
Cancer and other malignant tumors	1	1	9	37	13	23	43
Congestion and hæmorrhage of the brain			11	6	34	35	57
Convulsions of children	798	129	944	399	1,974	1,822	1,383
Acute bronchitis	68	6	22	35	149	188	211
Diarrhœa and enteritis (under 2 years)	157	1	116	14	55	133	101
Chronic diarrhœa and enteritis	41	4	64	14	77	17	77
Diarrhœa and enteritis (2 years and over)	165	5	168	209	65	140	35
Diseases of the puerperal state	60	14	79	70	101	204	63
Violence:							
Suicide		3	11	20	4	5	5
Not suicide	9	7	90	218	44	110	40
Other diseases	931	257	3,368	2,255	2,471	4,622	1,831
Total	3,858	703	8,362	7,298	7,737	12,556	5,302
Males	2,043	373	4,572	3,813	4,127	6,572	2,861
Females	1,815	330	3,790	3,485	3,610	5,984	2,441
Annual death rate per 1,000	29.00	34.33	27.44	39.47	34.36	28.41	34.86
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	435	137	779	681	717	1,511	638
Widowers	170	38	390	351	296	610	222
Single	137	35	460	366	223	372	157
Boys	1,218	163	2,844	2,407	2,890	4,068	1,831
Condition not stated	83		99	8	1	11	13
Females:							
Married	391	100	627	518	670	1,446	578
Widows	264	61	476	492	427	942	296
Single	91	15	344	412	130	303	99
Girls	998	154	2,320	2,059	2,382	3,282	1,458
Condition not stated	71		23	4	1	11	10

Causes of death.	Romblon.	Samar.	Surigao.	Tarlac.	Tayabas.	Union.	Zambales.
Typhoid fever (abdominal typhus)	13	119		52	116	27	29
Malarial fever	220	369	126	407	461	299	101
Malarial cachexia	102	160	2	150	224	190	37
Smallpox	1	26			1		
Measles	104	29	57	34	12		5
Whooping cough	8	40	48	35	41	28	10
Cholera, Asiatic							
Dysentery	83	107	109	147	261	51	207
Beriberi	31	81	3	44	108	10	12
Tuberculosis of the lungs	103	98	70	448	383	110	223
Tuberculosis of other organs	2	9		1	2	2	
Cancer and other malignant tumors	10	12	1	1	30	16	5
Congestions and hæmorrhage of the brain	29	10		16	50	6	2
Convulsions of children	40	47	12	730	530	391	178
Acute bronchitis	37	114	5	54	100	52	2
Diarrhœa and enteritis (under 2 years)	7	22	3	31	74	6	59
Chronic diarrhœa and enteritis	21	18	1	2	16	4	
Diarrhœa and enteritis (2 years and over)	14	17	3	35	50	11	18
Diseases of the puerperal state	76	81	40	50	132	27	27
Violence:							
Suicide	1	72	5	2	16	3	1
Not suicide	19	56	9	37	40	21	12
Other diseases	853	1,445	648	1,106	2,755	1,020	797
Total	1,774	2,932	1,142	3,382	5,402	2,274	1,725

General return of births and deaths (with causes), etc.—Continued.

Causes of death.	Rom-blon.	Samar.	Suri-gao.	Tarlac.	Taya-bas.	Union.	Zam-bales.
Males	905	1,543	622	1,861	2,888	1,208	873
Females	869	1,389	520	1,521	2,514	1,066	852
Annual death rate per 1,000	30.98	21.01	13.60	24.16	26.75	17.25	27.77
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	184	403	125	436	781	304	186
Widowers	107	126	62	166	235	133	68
Single	74	195	65	112	228	110	61
Boys	537	535	367	1,146	1,627	654	556
Condition not stated	3	284	3	1	17	7	2
Females:							
Married	148	358	122	358	664	237	202
Widows	139	176	65	208	403	167	111
Single	73	141	40	64	156	77	52
Girls	502	475	292	891	1,289	582	487
Condition not stated	7	239	1		2	3	

REPORTS RECEIVED OF BLIND PERSONS LIVING IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS.

Provinces.	Race.	Number of—		Children.		Single.		Married.		Widowed.		Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Abra	Filipino	21	21			7	4	8	9	6	8	42
Agusan	do	10	8	1	1	7	4	2	2		1	18
Albay	do	129	103	13	11	69	59	36	12	11	21	232
Ambos Camarines	do	74	62	8	5	28	32	21	5	17	20	136
Antique	do	52	48	3	4	24	21	17	6	8	17	100
Bataan	do	34	18		1	16	11	16	1	2	5	52
Batanes	do	13	36	1	1	1	9	6	7	5	19	49
Batangas	do	101	73	7	4	45	33	38	19	11	17	174
Bohol	do	145	106	15	1	69	72	49	18	12	15	251
Bulacan	do	61	62	4	4	28	29	22	12	7	17	123
Cagayan	do	53	31	6		18	8	25	12	4	11	84
Capiz	do	87	85	3	2	30	27	36	24	18	32	172
Cavite	do	60	57	8	7	25	23	21	14	6	13	117
Cebu	do	77	69	3	19	44	26	21	9	9	15	146
Ilocos Norte	do	41	44	2	1	8	15	26	5	5	23	85
Ilocos Sur	do	74	68	7	6	38	22	19	17	10	23	142
Iloilo	do	136	110	9	5	65	49	42	17	20	39	246
Isabela	do	14	18		1	3	3	7	5	4	9	32
Laguna	do	58	38	9	4	29	14	15	7	5	13	96
Leyte	do	78	41	9	4	43	23	16	5	10	9	119
Misamis	do	62	38	4	3	34	14	18	10	6	11	100
Mountain	do	49	32									81
Nueva Ecija	do	52	38	6	2	17	11	20	6	9	19	90
Nueva Vizcaya	do	12	6	1	1	6	1	3	1	2	3	18
Occidental Negros	do	85	57	7	3	41	28	13	9	24	17	142
Oriental Negros	do	86	55	4	2	46	27	27	13	9	13	141
Pampanga	do	133	101	12	10	57	39	47	23	17	29	234
Pangasinan	do	118	101	13	8	46	37	41	26	18	30	219
Rizal	do	86	62	5	5	31	27	38	15	12	15	148
Romblon	do	20	15	4	1	7	8	9	2		4	35
Samar	do	54	35	10	2	30	24	11	5	3	4	89
Surigao	do	24	5	2		10	1	10	2	2	2	29
Tarlac	do	43	43	7	5	10	14	14	9	12	15	86
Tayabas	do	77	41	8	2	37	21	23	9	9	9	118
Union	do	33	35	3	4	14	10	8	9	8	12	68
Zambales	do	31	26	1	1	14	11	11	4	5	10	57
Total		2,283	1788	195	130	997	757	736	349	306	520	4,071

REPORTS RECEIVED OF INSANE PERSONS LIVING IN THE VARIOUS PROVINCES OF THE PHILIPPINE ISLANDS.

Provinces.	Race.	Number of—		Children.		Single.		Married.		Widowed.		Total.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Abra	Filipinos	29	25	1	2	19	8	7	11	2	4	54
Agusan	do	7	6	----	----	5	3	2	3	----	----	13
Albay	do	47	47	----	----	36	28	9	10	2	9	94
Ambos Camarines	d°	46	56	2	1	37	33	4	12	3	10	102
Antique	do	62	37	----	----	40	18	18	13	4	6	99
Bataan	do	19	15	----	----	11	6	5	4	3	5	34
Batanes	do	18	7	----	----	17	6	1	----	----	1	25
Batangas	do	62	52	2	----	36	29	19	11	5	12	114
Bohol	do	208	169	3	----	162	141	35	23	8	5	377
Bulacan	do	41	29	----	1	27	13	8	9	6	6	70
Cagayan	do	17	15	----	----	8	5	5	9	4	1	32
Capiz	do	72	64	3	----	36	29	25	18	8	17	136
Cavite	do	38	39	----	----	25	14	6	16	7	9	77
Cebu	do	211	132	1	----	176	107	28	19	6	6	343
Hospicio de San Jose [a]	do	46	35	----	----	----	----	----	----	----	----	81
Ilocos Norte	do	74	30	----	1	60	16	13	8	1	5	104
Ilocos Sur	do	99	60	1	2	69	32	21	18	8	8	159
Iloilo	do	73	63	1	----	58	40	11	14	3	9	136
Isabela	do	7	6	----	----	1	4	6	1	----	1	13
Laguna	do	31	34	----	1	21	10	8	12	2	11	65
Leyte	do	45	36	1	----	38	22	6	7	----	7	81
Misamis	do	62	37	2	1	46	28	9	6	5	2	99
Nueva Ecija	do	29	23	----	----	24	12	4	8	1	3	52
Nueva Vizcaya	do	12	10	----	2	8	5	3	1	1	2	22
Occidental Negros	do	48	28	4	1	32	14	7	5	5	8	76
Oriental Negros	do	105	57	----	2	81	41	17	9	7	5	162
Pampanga	do	23	30	----	----	14	10	6	11	3	9	53
Pangasinan	do	120	81	----	2	62	36	45	28	13	15	201
Rizal	do	40	25	----	----	28	14	7	7	5	4	65
Romblon	do	13	5	----	----	4	2	7	2	2	1	18
Samar	do	47	26	1	1	36	15	9	8	1	2	73
San Lazaro Hospital [b]	do	230	67	----	1	114	29	96	27	20	10	297
Surigao	do	11	2	----	----	6	----	3	2	2	----	13
Tarlac	do	3	3	----	----	1	3	2	----	----	----	6
Tayabas	do	113	89	3	2	93	60	11	21	6	6	202
Union	do	36	35	1	1	17	26	14	5	4	3	71
Zambales	do	16	22	2	----	10	10	4	7	----	5	38
Total		2,160	1,497	28	21	1,458	869	481	365	147	207	3,657

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[a] Europeans, 8; Filipinos, 73; total, 81.

[b] Americans, 4; Europeans, 3; Filipinos, 284; Chinese, 4; others, 2; total, 297.

SMALLPOX AND VARIOLOID IN THE PROVINCES DURING THE THIRD AND FOURTH QUARTERS OF 1912, FIRST AND SECOND QUARTERS, 1913.

[Closed August 11, 1913.]

Provinces.	Smallpox.										Varioloid.									
	1912				1913						1912				1913					
	Third quarter.		Fourth quarter.		First quarter.		Second quarter.		Total.		Third quarter.		Fourth quarter.		First quarter.		Second quarter.		Total.	
	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.
Abra					(a)		(a)								(a)		(a)			
Agusan							(a)										(a)			
Albay							(a)										(a)			
Ambos Camarines							(a)										(a)			
Antique							(a)										(a)			
Bataan							(a)										(a)			
Batanes							(a)										(a)			
Batangas							(a)										(a)			
Bohol	21	4		2			(a)		21	6							(a)			
Bulacan							(a)										(a)			
Cagayan							(a)										(a)			
Capiz							(a)										(a)			
Cavite						4	(a)			4							(a)			
Cebu		33	9	51	61	15	(a)		70	99			4		4		(a)		8	
Ilocos Norte					(a)		(a)								(a)		(a)			
Ilocos Sur					(a)		(a)								(a)		(a)			
Iloilo							(a)										(a)			
Isabela							(a)										(a)			
Laguna							(a)										(a)			
Leyte	857	35	807	59	(a)		(a)		1,664	94					(a)		(a)			
Misamis		2	41	4	10	6	(a)		51	12							(a)			
Nueva Ecija							(a)										(a)			
Nueva Vizcaya							(a)										(a)			
Occidental Negros		1				1	(a)			2							(a)			
Oriental Negros				1						1										
Pampanga						1	(a)			1							(a)			
Pangasinan					54				54											
Rizal							(a)										(a)			
Romblon					(a)		(a)								(a)		(a)			
Samar				22	(a)		(a)			22					(a)		(a)			

[a] No reports yet received on Provincial Form No. 46.

Smallpox and varioloid in the provinces during the third and fourth quarters of 1912, first and second quarters, 1913—Continued.

Provinces.	Smallpox.										Varioloid.									
	1912				1913				Total.		1912				1913				Total.	
	Third quarter.		Fourth quarter.		First quarter.		Second quarter.				Third quarter.		Fourth quarter.		First quarter		Second quarter.			
	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.	Cases reported.	Deaths.
Surigao					3	1	(a)		3	1							(a)			
Tarlac																				
Tayabas																				
Union							(a)										(a)			
Zambales					36	1	(a)		36	1							(a)			
Total	878	75	857	139	164	29			1,899	243			4		4				8	

Also reported 76 cases of varicella in the following provinces: Agusan, 12; Bataan, 38; Batanes, 11; Cavite, 2; Pampanga, 10; Rizal, 3; total, 76.

[a] No reports yet received on Provincial Form No. 46.

AMOUNT OF VACCINE VIRUS DISTRIBUTED BY THE BUREAU OF HEALTH.

	Units.
Amount on hand July 1, 1912	35,500
Received from the Bureau of Science	2,365,000
Total to be accounted for	2,400,500
Distributed as per itemized statement	2,365,800
Remaining on hand June 30, 1913	34,700

PLACES TO WHICH VACCINE VIRUS WAS DISTRIBUTED.

	Units.
Provinces:	
Agusan	1,000
Albay	63,100
Ambos Camarines	36,700
Baguio Hospital Division	3,000
Bataan	6,100
Batanes	3,500
Batangas	118,500
Benguet	700
Bulacan	84,600
Cagayan	18,500
Cavite	14,100
Cebu	655,000
Ilocos Norte	77,400
Ilocos Sur	134,600
Iloilo	245,000
Isabela	27,000
Laguna	39,000
Leyte	100,000
Provinces—Continued.	
Mindoro	300
Misamis	3,000
Moro	2,000
Mountain	36,000
Nueva Ecija	19,300
Nueva Vizcaya	5,500
Oriental Negros	20,000
Palawan	8,800
Pampanga	51,300
Pangasinan	95,000
Rizal	26,400
Romblon	11,600
Samar	95,000
Sorsogon	22,700
Surigao	35,000
Tarlac	11,100
Tayabas	45,100
Union	99,300
Zambales	23,500
Total	2,238,700
Manila:	
Health districts	106,900
Other institutions	20,200
Total	127,100
Grand total	2,365,800

VACCINATIONS.

[Closed August 5, 1913.]

	Vaccinations.	Inspections.	Positive.	Negative.
Manila:				
Health district No. 1, Intramuros	14,173			
Health district No. 2, Meisic	50,943	2,631	1,641	990
Health district No. 4, Sampaloc	19,063	11,063	5,814	5,249
Health district No. 5, Tondo	12,463	3,604	1,861	1,743
Health district No. 6, Paco	8,210	3,168	2,391	777
Total	104,852	20,466	11,707	8,759
Provinces:				
Abra	10,611	7,284	2,631	4,653
Agusan	26,990	13,424	8,972	4,452
Albay	26,013	20,928	15,319	5,609
Ambos Camarines	25,770	16,420	11,972	4,448
Amburayan	9,382	7,086	7,086	
Bataan	7,808	7,439	4,839	2,600
Batanes	485	422	151	271
Bohol	45,428	39,129	24,975	14,154
Bulacan	59,433	40,198	27,431	12,767
Cagayan	9,183	4,768	4,008	760
Cavite	12,326	10,876	7,981	2,895
Cebu	178,865	90,501	62,835	27,666
Ilocos Norte	33,690	29,945	14,239	15,706
Ilocos Sur	54,229	46,346	22,475	23,871
Iloilo	8,876	7,048	5,562	1,486
Isabela	2,111	160	160	
Laguna	28,230	24,818	15,364	9,454
Misamis	25,209	13,504	5,619	7,885
Mountain	11,740	11,070	8,523	2,547
Nueva Ecija	4,286	2,103	1,807	296
Nueva Vizcaya	2,075	2,075	1,693	382
Occidental Negros	33,039	17,511	12,277	5,234
Oriental Negros	30,825	23,671	17,053	6,618
Palawan	3,756	2,045	1,448	597
Pampanga	46,409	40,081	26,439	13,642
Pangasinan	86,201	75,113	54,531	20,582
Rizal	23,051	18,132	10,692	7,440
Samar	31,676	23,018	13,998	9,020
Sorsogon	6,045	3,549	2,023	1,526
Tarlac	14,317	13,912	9,390	4,522
Tayabas	24,409	18,057	9,912	8,145
Union	42,049	35,993	22,848	13,145
Zambales	12,077	8,178	5,478	2,700
Total	936,594	674,804	439,731	235,073
Grand total	1,041,446	695,270	451,438	243,832

MORTALITY AMONG GOVERNMENT EMPLOYEES.

[Closed August 6, 1913.]

	Americans.	Filipinos.
Average number of employees	2,825	7,216
Deaths reported:		
From illness	5	24
From violence	2	1
Total	7	25
Deaths from illness:		
Average years of service	6.93	5.35
Average age at death	38.93	31.98
Annual death rate per 1,000	1.76	3.32
Deaths from violence:		
Average years of service	3.59	11.18
Average age at death	28.13	36.00
Annual death rate per 1,000	0.70	0.13
All deaths:		
Average years of service	5.53	5.74
Average age at death	37.28	32.28
Annual death rate per 1,000	2.47	3.46
Both nationalities:		
Population		10,041
Number of deaths		32
Average years of service		5.81
Average age at death		33.27
Annual death rate per 1,000		3.18

SECTION 3.—STATISTICS OF HOSPITAL AND OTHER DIVISIONS OF THE BUREAU OF HEALTH.

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BAGUIO HOSPITAL DIVISION.

HOSPITAL CASES.

Diseases.	Cases.
4. Malaria	49
5. Smallpox	6
6. Measles	2
14. Dysentery	46
19. Other epidemic diseases	14
20. Purulent infection and septichæmia	4
28. Tuberculosis of tbe lungs	16
31. Abdominal tuberculosis	1
34. Tuberculosis of other organs	4
35. Disseminated tuberculosis	1
37. Syphilis:	
Primary	1
Secondary	5
Tertiary	5
38a. Soft chancre	3
38b. Gonococcus infection	15
40. Cancer and other malignant tumors of the stomach, liver	1
42. Cancer and other malignant tumors of the female genital organs	1
45. Cancer and other malignant tumors of other organs or of organs not specified	1
46. Other tumors (tumors of the female genital organs excepted)	3
47. Acute articular rheumatism	4
56. Alcoholism (acute or chronic)	12
61. Simple meningitis	2
69. Epilepsy	1
73a. Hysteria	2
73b. Neuralgia and neuritis	1
74. Other diseases of the nervous system	6
75. Other diseases of the eyes and their annexa	11
76. Diseases of the ears	2
78. Acute endocarditis	2
79. Organic diseases of the heart	6
81. Diseases of the arteries, atheroma, aneurysm, etc	1
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	2
84. Diseases of the lymphatic system (lymphangitis, etc.)	3
85. Hæmorrhage; other diseases of the circulatory system	1
86. Diseases of the nasal fossae	14
87. Diseases of the larynx	2
89. Acute bronchitis	63
90. Chronic bronchitis	1
91. Bronchopneumonia	7
92. Pneumonia	16
93. Pleurisy	4
96. Asthma	3
99a. Diseases of the teeth and gums	1
99b. Other diseases of the mouth and annexa	3
100. Diseases of the pharynx	4
103. Other diseases of the stomach (cancer excepted)	45
104. Diarrhœa and enteritis (under 2 years)	3
105. Diarrhœa and enteritis (2 years and over)	22
106. Ankylostomiasis	1
107. Intestinal parasites	33
108. Appendicitis and typhlitis	3
109. Hernia, intestinal obstruction	1
110. Other diseases of the intestines	19
115. Other diseases of the liver	8
116. Diseases of the spleen	1
120. Bright's disease	2
124. Diseases of the bladder	6
127. Nonvenereal diseases of the male genital organs	8
129. Uterine tumor (noncancerous)	3
130a. Metritis	1
130b. Other diseases of the uterus	1
132. Salpingitis and other diseases of the female genital organs	1
134a. Normal labor	29
134b. Accidents of pregnancy	11
135. Puerperal hæmorrhage	4
136. Other accidents of labor	3
137. Puerperal septichæmia	2
141. Puerperal diseases of the breast	4
143. Furuncle	2
144. Acute abscess	15
145a. Scabies	4
145b. Other diseases of the skin and annexa	12
146. Diseases of the bones (tuberculosis excepted)	2
147. Diseases of the joints (tuberculosis and rheumatism excepted)	2
149. Other diseases of the organs of locomotion	1
150. Congenital malformations (stillbirths not included)	2
151a. Congenital debility, icterus and sclerema	1
151b. Nurslings discharged from hospital without disease	84
152. Other diseases peculiar to early infancy	1
164. Poisoning by food	7
167. Burns (conflagration excepted)	9
171. Traumatism by cutting or piercing instruments	24
172. Traumatism by fall	53
173. Traumatism in mines and quarries	23
174. Traumatism by machines	1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	34
176. Injuries by animals	3
184. Homicide by other means	3
185b. Sprains	3
186. Other external violence	8
189a. Causes of death not specified or ill-defined	2
189b. No disease, feigned disease	4
Total	808

Baguio Hospital Division—Continued.

TABLE OF DEATHS.

Date.	Nationality.	Adult or child.	Sex.	Cause of death.
1912.				
July 7	Igorot	Adult	Male	Dysentery, bacillary, acute.
July 8	Filipino	do	do	Pneumonia, lobar.
July 8	Spaniard	do	Female	Tuberculosis of the lungs.
July 15	Igorot	do	Male	Pneumonia, lobar.
July 24	Filipino	do	do	Fracture of skull; hæmorrhage, meningeal.
Aug. 9	do	do	do	Fracture of skull.
Aug. 12	Igorot	Child	do	Entero-colitis, acute catarrhal; bronchitis, acute
Aug. 17	do	Adult	do	Peritonitis, tuberculous. Adenitis, tuberculous, mesenteric.
Sept. 10	Filipino	do	do	Pneumonia, lobar.
Sept. 28	Japanese	do	do	Cancer of the stomach.
Oct. 4	Filipino	do	do	Meningitis, simple.
Oct. 4	do	do	do	Do.
Oct. 4	Igorot	do	do	Dysentery, bacillary, acute.
Dec. 12	do	do	do	Acute endocarditis.
Dec. 24	do	Child	do	Dysentery, bacillary, acute.
1913.				
Jan. 6	Filipino	Adult	do	Pneumonia, croupous, acute.
Jan. 7	American	Child	Female	Endocarditis, acute; myocarditis, acute; and œdema of lungs.
Jan. 7	Chinese	Adult	Male	Adenitis, tuberculous, cervical.
Feb. 7	Igorot	do	do	Fracture of skull (landslide).
Feb. 23	do	do	do	Do.
Mar. 7	Filipino	Child	do	Bronchopneumonia.
Mar. 27	American	Adult	do	Tuberculosis of the lungs.
Mar. 30	Filipino	Child	Female	Acute bronchitis.
Apr. 20	Igorot	Adult	Male	Traumatism by crushing (falling log); fracture femur and spine.
Apr. 23	Filipino	do	do	Tuberculosis of the lungs.
Apr. 30	Chinese	Child	do	Bronchopneumonia.
May 6	do	Adult	do	Do.
May 17	Filipino	do	do	Tuberculosis of the lungs; disseminated tuberculosis.
May 21	American	Child	Female	Congenital debility.
June 10	Filipina	do	do	Pneumonia, lobar.

Baguio Hospital Division—Continued.

REPORT OF TUBERCULOSIS CASES.

[Classification used is that recommended by the National Association for the Study and Prevention of Tuberculosis.]

Case No.	Race.	Sex.	Age.	Condition on Admission.	Stage.	Lung involvement.	Gain in weight.	Complications.	Days treated.	Conditions on discharge.
							Kilos.			
[a]395	Filipino	Male	29	Advanced	III	Entire left lung	2	Pulmonary hæmorrhage, otitis media.	743	Improved.
385	do	do	19	Moderately advanced.	II	Left upper lobe	6.2		306	Arrested.
490	Spaniard	Female	46	Advanced	III	Right upper lobe; left lower lobe			66	Died.
627	Filipino	Male	25	Incipient	I	Right apex	2		136	Arrested.
640	do	do	32	Moderately advanced.	II	Left upper lobe; right apex	5		309	Do.
828	do	do	20	Advanced	III	Left upper lobe; right upper lobe			139	Progressive; unimproved.
898	American	do	36	Incipient	I	Right apex	4.5		206	Apparently cured.

Patients treated during the year, 16 (Americans, 4; Spaniards, 2; Filipinos, 10).
Patients remaining in hospital, July 1, 1913, 9 (Americans, 3; Spaniards, 1; Filipinos, 5).
Cases to be reported, 7 (Americans, 1; Spaniards, 1; Filipinos, 5).

[a] Fiscal year 1911.

Baguio Hospital Division—Continued.

MISCELLANEOUS.

Patients remaining from fiscal year 1912	21
Cases admitted during fiscal year 1913	658
Total number of hospital cases during 1913	679
Total number of hospital cases remaining June 30, 1913	26
Total number of persons accompanying patients in hospital	48
Total number of visits to hospital clinic	7,395
Total number of patients to hospital clinic	4,165
Total number of surgical dressings to hospital clinic	2,430
Total number of prescriptions filled	5,775
Total number of major operations performed	11
Total number of minor operations performed	423
Total number of laboratory examinations	665
Total number of prostitutes examined	122
Total number of Constabulary recruits, etc., examined	20
Total number of chauffeurs examined	52
Total number of civil-service examinations	17
Total number of vaccinations, city of Baguio	1,104
Total number of Americans treated in hospital	119
Total number of Filipinos treated in hospital	473
Total number of Japanese treated in hospital	42
Total number of Chinese treated in hospital	8
Total number of Europeans treated in hospital	16
Total number of male patients treated in hospital	513
Total number of female patients treated in hospital	145

BONTOC HOSPITAL DIVISION.

CASES TREATED AT PROVINCIAL HEALTH STATIONS BY MEDICAL OFFICERS OR ASSISTANT SANITARY INSPECTORS.

[Twenty-fifth health district, Mountain Province.]

Diseases.	Cases.
1. Typhoid fever	27
4. Malaria	10,003
4a. Malarial cachexia	48
6. Measles	29
7. Scarlet fever	3
8. Whooping cough	4
14. Dysentery	883
17. Leprosy	2
19. Other epidemic diseases	156
20. Purulent infection and septichæmia	38
23. Scabies	2
27. Beriberi	3
28. Tuberculosis of the lungs	36
32. Pott's disease	7
33. White swellings	4
34. Tuberculosis of other organs	23
37. Syphilis	13
38. Gonococcus infection	186
44. Cancer and other malignant tumors of the skin	7
46. Other tumors (tumors of the female genital organs excepted)	1
47. Acute articular rheumatism	189
48. Chronic rheumatism and gout	83
50. Diabetes	1
52. Addison's disease	32
53. Leuchæmia	1
54. Anæmia chlorosis	49
55. Other general diseases	1
63. Other diseases of the spinal cord	1
68. Other forms of mental alienation	1
73. Neuralgia and neuritis	18
74. Other diseases of the nervous system	4
75. Diseases of the eyes and their annexa	336
75a. Follicular conjunctivitis	191
75b. Trachoma	19
75c. Other diseases of the eyes and their annexa	108
76. Diseases of the ears	78
79. Organic diseases of the heart	6
80. Angina pectoris	1
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	1
84. Diseases of the lymphatic system (lymphangitis, etc.)	1
85. Hæmorrhage, other diseases of the circulatory system	30
86. Diseases of the nasal fossæ	146
88. Diseases of the thyreoid body	5
89. Acute bronchitis	534
90. Chronic bronchitis	164
91. Bronchopneumonia	6
92. Pneumonia	17
93. Pleurisy	13
94. Pulmonary congestion, pulmonary apoplexy	1
96. Asthma	17
98. Other diseases of the respiratory system (tuberculosis excepted)	325
99. Diseases of the mouth and annexa	83
99a. Diseases of the teeth and gums	8
99b. Other diseases of the mouth and annexa	97
100. Diseases of the pharynx	29
103. Other diseases of the stomach (cancer excepted)	362
104. Diarrhœa and enteritis (under 2 years)	31
105. Diarrhœa and enteritis (2 years and over)	834
107. Intestinal parasites	108
108. Appendicitis and typhilitis	1
109. Hernia, intestinal obstruction	1
110. Diseases of the intestines	74
110b. Other diseases of the intestines	174
115. Other diseases of the liver	17
119. Acute nephritis	1
122. Other diseases of the kidneys and annexa	1
123. Calculi of the urinary passages	8
134. Diseases of the bladder	2
127. Nonvenereal diseases of the male genital organs	6
130. Other diseases of the uterus	5
133. Nunpuerperal diseases of the breast (cancer excepted)	17
134. Accidents of pregnancy	34
134a. Normal labor	1
136. Other accidents of labor	4
141. Puerperal diseases of the breast	1
143. Furuncle	116
144. Acute abscess	272
145. Other diseases of the skin and annexa	1,269
145a. Trichophytosis	542
145b. Scabies	233
145c. Other diseases of the skin and annexa	849
146. Diseases of the bones (tuberculosis excepted)	6
147. Diseases of the joints (tuberculosis and rheumatism excepted)	1
148. Amputations	3
149. Other diseases of the organs of locomotion	16
150. Congenital malformation (stillbirths not included)	36
151. Congenital debility, icterus and sclerema	5
153. Lack of care	164
165a. Venomous bites and stings	4
165b. Other acute poisonings	16
166. Conflagration	22
167. Burns (conflagration excepted)	74
168. Absorption of deleterious gases (conflagration excepted)	1
171. Traumatism by cutting or piercing instruments	972
172. Traumatism by fall	10
173. Traumatism in mines and quarries	2
174. Traumatism by machines	2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	8
176. Injuries by animals	17
179. Effects of heat	1
185. Fractures (cause not specified)	112
185a. Dislocations	20
186. Other external violence	1,151
189. Causes of death not specified or ill-defined	545
Total	23,142

BUTUAN HOSPITAL DIVISION.

Sick Report.

Diseases.	Remaining July 1, 1912.	Admitted.	Died.	Discharged.	Remaining.
4. Malaria		10		10	
4a. Malarial cachexia		2		2	
6. Measles		1		1	
14. Dysentery		13	3	10	
17. Leprosy	1	10	1	10	
19. Other epidemic diseases		6		6	
27. Beriberi		1	1		
28. Tuberculosis of the lungs		2		2	
32. Pott's disease		1		1	
38b. Gonococcus infection		6		6	
39. Cancer and other malignant tumors of the buccal cavity		1			1
46. Other tumors (tumors of the female genital organs excepted)		4		3	1
47. Acute articular rheumatism		1		1	
64. Cerebral hæmorrhage, apoplexy		1	1		
66. Paralysis without specified cause		1		1	
68. Other forms of mental alienation		1		1	
69. Epilepsy		1			1
73. Neuralgia and neuritis		1		1	
73a. Hysteria		1		1	
74. Other diseases of the nervous system		1		1	
75c. Other diseases of the eyes and their annexa		1		1	
89. Acute bronchitis		1		1	
91. Bronchopneumonia		1	1		
93. Pleurisy		1		1	
103. Other diseases of the stomach (cancer excepted)		3		3	
105. Diarrhœa and enteritis (2 years and over)		9		9	
107. Intestinal parasites		1		1	
109. Hernia, intestinal obstruction		2		2	
110. Other diseases of the intestines		2		2	
110a. Diseases of the anus and fæcal fistulas		1		1	
127. Nonvenereal diseases of the male genital organs		5		4	1
136. Other accidents of labor		1		1	
144. Acute abscess		2		1	1
145c. Other diseases of the skin and annexa		4		3	1
150. Congenital malformations		2		2	
167. Burns (conflagration excepted)					
171. Traumatism by cutting or piercing instru-		2		2	
ments	1	10		11	
179. Effects of heat		2		2	
186. Other external violence		1		1	
189. Cause of death not specified or ill-defined		1		1	
Total	2	117	7	106	6

OUT-PATIENT SERVICE. BUTUAN HOSPITAL DIVISION, AND AGUSAN PROVINCE GENERALLY.

Patients treated in the Butuan Free Dispensary	3,454
Persons attended by the district health officer during inspection trips	1,240
Persons treated by the Constabulary practicante in the Omayan district	198
Persons treated by the assistant sanitary inspector at Talacogon (6 months)	700
Persons treated by assistant sanitary inspectors in the subprovince of Bukidnon from January 11 to May 30, 1913	93
Deaths in the municipalities of Cabadbaran and Talacogon, Butuan	329

CHINESE HOSPITAL SICK REPORT.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Male.	Female.	
In hospital at last report	27		27
Received	224		224
Discharged	144		144
Transferred			
Died	88		88
Remaining in hospital	19		19

CULION LEPER COLONY DIVISION.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Remaining at last report	1		3		1,639	971	1				2,616
Admitted					731	322	2		11	5	1,071
Born					21	15					36
Readmitted					46	6					52
Discharged					2	5					7
Transferred											
Escaped					77	7					84
Died					280	100	1		3	1	385
Remaining	1		3		2,078	1,202	2		8	4	3,298

MARRIAGES.

Nationality.	Total marriages.	Single males married.			Widowed males married.			Divorced males married.			Nationality of brides.						Relationship.	
		Single females.	Widowed females.	Divorced females.	Single females.	Widowed females.	Divorced females.	Single females.	Widowed females.	Divorced females.	Americans.	Filipinos.	Spaniards.	Other Europeans.	Chinese.	All others.	Blood.	Affinity.
Americans																		
Filipinos	59	41	7		7	4						59						
Spaniards																		
Other Europeans																		
Chinese																		
All others																		
Total	59	41	7		7	4						59						

MARRIAGES, BY AGE AND CIVIL STATUS.

Males.			Females.									
Age.	Single.	Widowed.	15 to 20 years.		21 to 25 years.		26 to 30 years.		31 to 40 years.		40 years and over.	
			S.	W.	S.	W.	S.	W.	S.	W.	S.	W.
15 to 20 years	9		8	1								
21 to 25 years	20	3	12		7	1	2			1		
26 to 30 years	11	3	3		4	1	5			1		
31 to 40 years	6	5	2		2		3	2		2		
41 to 50 years												
Over 50 years		2			1							1
Total	46	13	25	1	14	2	10	2		4		1

In these 59 marriages, the contracting parties were all Filipinos; there were no divorced persons married; no known relationship or affinity.

MOVEMENT OF POPULATION.

Month.	Admissions.	Readmissions.	Births	Escapes.	Deaths	Discharges.	Marriages.
1912.							
July	160	10	3	8	22		1
August			2	7	42		
September	101	6	2	11	48		3
October			1	6	32		9
November			1		20		6
December	297	7	2	2	18		8
1913.							
January	89	2	8		30		11
February			3		23		3
March	170	4	4	2	24	4	2
April		2	2	6	40		4
May	249	8	5	24	41	8	8
June	5	13	3	18	45		4
Total	1,071	52	36	84	385	7	59

Culion Leper Colony Division—Continued.

POPULATION BY NATIONALITY, ETC., JUNE 30, 1913.

	Male.	Female.		Male.	Female.
Americans	1		Single	689	307
Europeans	3		Married	946	573
Filipinos	2,078	1,202	Widowed	93	138
Chinese	2		Children	368	184
Chamorros	8	4			
Total	3,298		Total	3,298	

Population June 30, 1913	3,298
Population July 1, 1912	2,615
Increase	683
Less Chamorros (natives of Guam)	12
Net Filipino increase	671

BIRTHS.

Total for year	36
Legitimate	19
Illegitimate	17
Conceived at the colony	35
Deaths among this year's births	15

DEATHS.

Causes of death.	Deaths.
4. Malaria	21
14. Dysentery	41
17. Leprosy	176
20. Purulent infection and septichæmia	14
24. Tetanus	2
27. Beriberi	2
28. Tuberculosis of the lungs	23
54. Anæmia, chlorosis	2
60. Encephalitis	3
61. Simple meningitis	1
63. Other diseases of the spinal cord	1
64. Cerebral hæmorrhage, apoplexy	4
66. Paralysis without specified cause	1
71. Convulsions of infants (under 5 years of age)	6
77. Pericarditis	1
78. Acute endocarditis	3
79. Organic diseases of the heart	2
87. Diseases of the larynx	2
89. Acute bronchitis	11
91. Bronchopneumonia	2
92. Pneumonia	3
96. Asthma	2
104. Diarrhœa and enteritis (under 2 years)	3
105. Diarrhœa and enteritis (2 years and over)	17
115. Other diseases of the liver	1
119. Acute nephritis	3
135. Puerperal hæmorrhage	2
137. Puerperal septichæmia	2
142. Gangrene	7
146. Diseases of the bones (tuberculosis excepted)	1
151. Congenital debility, icterus, and sclerema	7
154. Senility	10
164. Poisoning by food	1
187. Ill-defined organic disease	4
189. Cause of death not specified or ill-defined	4
Total	385

COST OF MESSES.

Messes.	Total cost.	Average cost per person per day.
Leper	₱162,192.36	₱0.15017
Laborers	20,877.98	.246
Employees	8,206.16	1.081
Filipino	1,803.71	.525

Culion Leper Colony Division—Continued.

EXPENDITURES.

Gratuities	₱30,691.92
Payrolls	57,902.46
Supplies:	
Subsistence	201,246.81
Construction and repair	24,210.60
Miscellaneous	19,931.18
Total	333,982.97

The above statement does not include salaries, etc., paid from the Manila office, nor drugs and miscellaneous supplies furnished from the property division.

PHILIPPINE GENERAL HOSPITAL.

GENERAL STATISTICS.

Total number of completed cases	6,732
Total number of births	449
Total number of deaths	417
Total number of hospital days	90,957
Average hospital days	13.5

NATIONALITY.

Americans	1,148
Filipinos	5,166
Europeans:	
Russians	2
Australians	8
Germans	6
Swiss	3
Portuguese	5
Italians	1
French	7
British (English, Scotch, and Irish)	49
Belgians	1
Spanish	114
American Negroes	6
Japanese	66
Chinese	60
British Indians	27
Others	68

TABLE OF DISEASES.

Diseases.	Cases.	Discharged.	Died.	Transferred.	Deserted.
1. Typhoid fever	110	83	23	4	
4. Malaria	407	373	27	6	1
6. Measles	5	1		4	
8. Whooping cough	2	2			
9. Diphtheria and croup	2			2	
10. Influenza	5	5			
14. Dysentery	1,381	1,316	50	13	2
15. Plague	3			3	
17. Leprosy	4	2		2	
19. Other epidemic diseases	287	275	4	8	
20. Purulent infection and septichæmia	72	50	21	1	
24. Tetanus	16	2	1	13	
25. Mycoses	1	1			
27. Beriberi	21	17	4		
28. Tuberculosis of the lungs	394	316	42	36	
29. Acute miliary tuberculosis	2	2			
30. Tuberculous meningitis	4	2	2		
81. Abdominal tuberculosis	73	65	5	3	
32. Pott's disease	14	14			
33. White swellings	23	21		2	
34. Tuberculosis of other organs	145	133	7	5	
36. Rickets	21	17	4		
37a. Syphilis:					
Primary	21	20	1		
Secondary	69	68	1		
Tertiary	192	183	2	6	1
Hereditary	5	3	2		
Period not stated	45	42	3		
38a. Soft chancre	15	15			
38b. Gonococcus infection	183	181		2	
39. Cancer and other malignant tumors of the buccal cavity	25	23	2		
40. Cancer and other malignant tumors of the stomach, liver	19	17	2		
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum	20	16	4		
42. Cancer and other malignant tumors of the female genital organs	27	25	1	1	
43. Cancer and other malignant tumors of the breast	1	1			

Philippine General Hospital—Continued.

TABLE OF DISEASES—Continued.

Diseases.	Cases.	Discharged.	Died.	Transferred.	Deserted.
44. Cancer and other malignant tumors of the skin	10	9	1	----	---
45. Cancer and other malignant tumors of other organs or of organs not specified	62	54	8	----	---
46. Other tumors (tumors of the female genital organs excepted)	46	41	5	----	---
47. Acute articular rheumatism	55	54	1	----	---
48. Chronic rheumatism and gout	13	11	2	----	---
50. Diabetes	8	7	1	----	---
51. Exophthalmic goitre	3	3	----	----	---
52. Addison's disease	1	1	----	----	---
53. Leuchæmia	1	1	----	----	---
54. Anæmia, chlorosis	145	119	26	----	---
55. Other general diseases	48	32	14	2	---
56. Alcoholism (acute or chronic)	44	40	----	4	---
59. Other ehronic poisonings	4	2	2	----	---
60. Encephalitis	1	1	----	----	---
61. Simple meningitis	24	4	20	----	---
62. Locomotor ataxia	3	3	----	----	---
63. Other diseases of the spinal cord	11	8	3	----	---
64. Cerebral hæmorrhage, apoplexy	28	12	16	----	---
66. Paralysis without specified cause	35	28	7	----	---
67. General paralysis of the insane	4	4	----	----	---
68. Other forms of mental alienation	15	8	----	7	---
69. Epilepsy	12	9	1	1	1
71. Convulsions of infants	13	6	7	----	---
73. Neuralgia and neuritis	116	115	1	----	---
74. Other diseases of the nervous system	32	28	3	1	---
75b. Trachoma	2	2	----	----	---
75c. Other diseases of the eyes and their annexa	508	491	9	4	4
76. Diseases of the ears	119	110	8	1	---
77. Pericarditis	14	8	6	----	---
78. Acute endocarditis	18	11	7	----	---
79. Organic diseases of the heart	190	133	55	2	---
81. Diseases of the arteries, atheroma, aneurism, etc	55	50	4	1	---
82. Embolism and thrombosis	7	5	2	----	---
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	98	95	2	1	---
84. Diseases of the lymphatic system (lymphangitis, etc.)	91	79	11	----	1
85. Hæmorrhage; other diseases of the circulatory system	31	15	16	----	---
86. Diseases of the nasal fossæ	123	118	4	1	---
87. Diseases of the larynx	18	13	5	----	---
88. Diseases of the thyreoid body	72	65	6	1	---
89. Acute bronchitis	182	173	8	1	---
90. Chronic bronchitis	43	37	5	1	---
91. Bronchopneumonia	199	119	79	1	---
92. Pneumonia	71	45	25	1	---
93. Pleurisy	112	84	24	4	---
94. Pulmonary congestion, pulmonary apoplexy	101	6	95	----	---
95. Gangrene of the lungs	1	----	1	----	---
96. Asthma	31	29	1	----	1
97. Pulmonary emphysema	10	8	2	----	---
98. Other diseases of the respiratory system (tuberculosis excepted)	2	1	1	----	---
99a. Diseases of the teeth and gums	43	38	5	----	---
99b. Other diseases of the mouth and annexa	91	73	15	3	---
100. Diseases of the pharynx	251	246	2	3	---
101. Diseases of the œsophagus	1	1	----	----	---
102. Ulcer of the stomach	10	10	----	----	---
103. Other diseases of the stomach (cancer excepted)	118	116	2	----	---
104. Diarrhœa and enteritis (under 2 years)	93	71	21	1	---
105. Diarrhœa and enteritis (2 years and over)	123	102	21	----	---
106. Ankylostomiasis	737	689	34	13	1
107. Intestinal parasites	4,830	4,632	147	47	4
108. Appendicitis and typhlitis	251	243	8	----	---
109. Hernia, intestinal obstruction	195	182	13	----	---
110a. Diseases of the anus and fæcal fistulas	37	35	2	----	---
110b. Other diseases of the intestines	150	129	19	2	---
111. Acute yellow atrophy of the liver	1	----	1	----	---
113. Cirrhosis of the liver	22	15	7	----	---
114. Billiary calculi	18	16	1	----	1
115. Other diseases of the liver	102	91	9	----	2
116. Diseases of the spleen	20	19	----	----	1
117. Simple peritonitis (nonpuerperal)	131	90	41	----	---
118. Other diseases of the digestive system (cancer and tuberculosis excepted)	4	3	1	----	---
119. Acute nephritis	320	225	90	5	---
120. Bright's disease	435	354	74	7	---

Philippine General Hospital—Continued.

TABLE OF DISEASES—Continued.

Diseases.	Cases.	Discharged.	Died.	Transferred.	Deserted.
122. Other diseases of the kidneys and annexa	99	79	19	1	
123. Calculi of the urinary passages	59	50	9		
124. Diseases of the bladder	165	139	25		1
125. Diseases of the urethra, urinary abscess, etc.	46	43	3		
126. Diseases of the prostate	14	12	2		
127. Nonvenereal diseases of the male genital organs	105	98	7		
128. Uterine hæmorrhage (nonpuerperal)	4	3	1		
129. Uterine tumor (noncancerous)	27	26	1		
130a. Metritis	212	209	2		1
130b. Other diseases of the uterus	227	225	1		1
131. Cysts and other tumors of the ovary	96	93	3		
132. Salpingitis and other diseases of the female genital organs	110	105	3		2
133. Nonpuerperal diseases of the breast (cancer excepted)	22	22			
134. Accidents of pregnancy	277	264	10	3	
135. Puerperal hæmorrhage	71	54	17		
136. Other accidents of labor	805	783	18	1	3
137. Puerperal septichæmia	47	31	16		
138. Puerperal albuminuria and convulsions	14	5	9		
139. Puerperal, phlegmasia, alba dolens, embolus, sudden death	1	1			
140. Following child birth (not otherwise defined)	59	57	2		
141. Puerperal diseases of the breast	8	8			
142. Gangrene	12	7	5		
143. Furuncle	57	52	5		
144. Acute abscess	185	167	17	1	
145a. Trichophytosis	49	46	3		
145b. Scabies	88	84	3	1	
145c. Other diseases of the skin and annexa	193	174	16	3	
146. Diseases of the bones (tuberculosis excepted)	120	110	8	2	
147. Diseases of the joints (tuberculosis and rheumatism excepted)	30	30			
149. Other diseases of the organs of locomotion	43	42	1		
150. Congenital malformations (stillbirths not included)	84	76	8		
151. Congenital debility, icterus, and sclerema	70	54	16		
152. Other diseases peculiar to early infancy	42	73	3	2	
154. Senility	6	3	1	2	
164. Poisoning by food	8	8			
165. Other acute poisonings	16	8	8		
167. Burns (conflagration excepted)	51	45	6		
169. Accidental drowning	1	1			
170. Traumatism by firearms	14	12	2		
171. Traumatism by cutting or piercing instruments	27	25	2		
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	24	21	3		
177. Starvation	2	1	1		
183. Homicide by cutting or piercing instruments	39	33	6		
185a. Dislocations	22	22			
185b. Sprains	21	21			
185c. Fractures (cause not specified)	181	150	27	3	1
186. Other external violence	357	324	26	4	3
187. Ill-defined organic disease	31	17	14		
188. Sudden death	2	2			
189a. Cause of death not specified or ill-defined	218	166	45	4	3
189b. No disease, feigned disease	4	4			
Total	18,894	17,017	1,589	253	35

Philippine General Hospital—Continued.

DEPARTMENT OF SURGERY.

	Charity.	Government— Free.	Government— Pay.	Hospital, pay.	Private, pay.	Total.
Operations:						
Major	458	63	104	8	57	690
Minor	445	68	112	5	61	691
Emergency—						
Major	39	19	4	4	3	69
Minor	113	12	14	--------	6	145
Cleansing and dressing (including suturing):						
Dressings—						
Large	9,677	708	479	71	269	11,204
Small	9,301	1,215	821	68	507	11,912
Anæsthetics:						
General	729	112	170	9	92	1,112
Local	124	16	31	2	13	186
Total	20,886	2,213	1,735	167	1,008	26,009

DEPARTMENT OF OBSTETRICS.

	Official.	Charity.	Private, pay.	Hospital, pay.	Total.	Nationality. Americans.	Nationality. Filipinos.	Nationality. Others.
Abortions and miscarriages	12	51	2	--------	65	5	60	--------
Pregnancy	25	85	2	--------	112	4	106	2
Parturient women	106	316	14	8	444	41	386	17
Post partum women	17	76	1	2	96	2	93	1
Births	108	316	17	8	449	41	390	18
Living children	103	260	15	8	386	40	328	18
Stillborn	5	56	2	--------	63	1	62	--------
Deaths	8	42	--------	1	51	3	48	--------
Mothers	1	20	--------	1	22	1	21	--------
Infants	7	22	--------	--------	29	2	27	--------

DEPARTMENT OF THE EYE, EAR, NOSE, AND THROAT.

	Charity.	Government— Free.	Government— Pay.	Hospital, pay.	Private, pay.	Total.
Operations:						
Major	286	10	12	8	24	340
Minor	324	8	7	2	16	357
Emergency—						
Major	4	--------		--------	--------	4
Minor	--------	--------	--------	--------	--------	--------
Cleansing and dressing (including suturing):						
Dressings—						
Large	343	28	6		1	378
Small	15,400	3,193	43	17	79	18,732
Refractions	662	77	--------		--------	739
Anæsthetics:						
General	119	3	4	2	18	146
Local	495	15	15	8	22	555
Total	17,633	3,334	87	37	160	21,251

ELECTRO-MEDICAL DEPARTMENT.

	Official.	Private.	Charity.	Total.	Charges.
Skiagrams	340	96	384	820	₱1,900.00
Fluoroscopic examinations	14	6	5	25	32.50
X-irradiations	243	102	59	404	565.00
Ultra-violet irradiations	8	--------	4	12	--------
High frequency treatments	178	92	102	372	470.00
Galvano-faradic treatments	22	39	95	156	100.00
Cystoscopic examinations	2	--------	8	10	--------
Total	807	335	657	1,799	3,067.50

Philippine General Hospital—Continued.

CLINICAL RECORD DIVISION.

Classes of patients.	Medical.	Surgical.	Obstetrical.	Eye, ear, etc.	Total.
Charity adults	1,130	1,323	524	440	3,417
Charity children	405	125		69	599
Government free	557	294	86	62	999
Government pay	584	326	73	43	1,026
General hospital pay	115	70	11	13	209
Private pay	194	186	23	79	482
Total	2,985	2,324	717	706	6,732

INFORMATION DIVISION.

Ambulance service:	
Routine calls	1,732
Emergency calls	403
Total	2,135
Patients transferred to Philippine General Hospital	244
Patients transferred to other hospitals	268
Patients refusing to be transferred	108
Patients not accepted	138
Wrong addresses	49
Physicians with ambulance	1,061
Admissions:	
Charity	4,019
Government free	994
Government pay	1,032
General Hospital pay	234
Private pay	485
Total	6,764
Refused admissions:	
No beds	804
Chronic incurable	212
Other reasons	158
Total	1,174
Patients prescribed for (out patients):	
Government	1,741
Charity	3,006
Total	4,747

FREE DISPENSARY DIVISION.

	Clinics.				
	Medical.	Surgical.	Skin.	Obstetrical.	Eye, ear, nose, and throat.
First visit	10,749	5,723	1,220	224	4,245
More than one visit	9,914	15,468	987	124	9,608
Males	12,145	12,758	1,502		6,781
Females	8,518	6,275	367	348	5,018
Children		2,158	338		2,054
Total number of patients	20,663	21,191	2,207	348	13,853

	Clinics.				
	Neurology.	Genito urinary.	Children.	Dental.	Total.
First visit	266	441	2,183	1,666	26,717
More than one visit	377	377	1,347	1,100	39,302
Males	396	810		1,707	36,099
Females	206			914	21,646
Children	41	8	3,530	145	8,274
Total number of patients	643	818	3,530	2,766	66,019

Philippine General Hospital—Continued.

FREE DISPENSARY DIVISION—Continued.

School children's clinic	108
Tuberculosis clinic	866
Grand total	66,993
Government employees	6,503
Surgical clinics:	
Minor operations	926
Dressings	15,299
Eye, ear, nose, and throat clinics:	
Minor operations	56
Dressings	816
Prescriptions filled	105,623

OUT-PATIENT DEPARTMENT.

Physicians.	Visits.		
	Office.	Outside.	Total.
Dr. W. E. Musgrave	1,755	57	1,812
Dr. P. K. Gilman	1,802	54	1,856
Dr. R. Rembe	7,926		7,926
Dr. R. E. L. Newberne	236	212	448
Dr. H. E. Schiffbauer	575	4	579
Dr. D. M. Molloy	286	10	296
Dr. A. G. Sison	1,769	3	1,772
Dr. P. Guazon	1,758	1	1,759
Dr. A. D. Vazquez	2,425		2,425
Dr. H. Acosta, Sison	220	33	253
Dr. A. R. Ubaldo	1,008		1,008
Dr. C. R. Stanley	303	34	337
Dr. C. M. Reyes	638		638
Dr. M. Tolentino	3	16	19
Dr. J. E. Reed, jr.	192	2	194
Dr. H. F. Smith	444	8	452
Dr. G. B. Angle	164	78	242
Dr. P. Gutierrez	55		55
Officers of the day	3,518		3,518
Total	25,077	512	25,589

PRISON SANITATION DIVISION.

BILIBID PRISON HOSPITAL REPORT OF SICK.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
1. Typhoid fever		2			2	
4. Malaria		95			94	1
5. Smallpox	1	26		5	22	
6. Measles	3	22		1	24	
14. Dysentery	7	276			266	17
17. Leprosy		2		2		
19. Other epidemic diseases	4	374		3	372	3
20. Purulent infection and septichæmia		10	1		9	
27. Beriberi	1	6	1		6	
28. Tuberculosis of the lungs	139	190	97	2	69	161
31. Abdominal tuberculosis	3	7	3		6	1
32. Pott's disease	1	1			2	
34. Tuberculosis of other organs	1	15			15	1
37. Syphilis:						
1. Primary		5			5	
2. Secondary	2	33			32	3
3. Tertiary		14			14	
4. Hereditary		1			1	
38a. Soft chancre		1			1	
38b. Gonococcus infection	3	20			23	
39. Cancer and other malignant tumors of the buccal cavity						
40. Cancer and other malignant tumors of the stomach, liver		1	1			
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum		1	1			
45. Cancer and other malignant tumors of other organs or of organs not specified		1			1	

Prison Sanitation Division—Continued.

BILIBID PRISON HOSPITAL REPORT OF SICK—Continued.

Diseases.	Remainnig at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
46. Other tumors (tumors of the female genital organs excepted)		10			10	
47. Acute articular rheumatism		14			14	
48. Chronic rheumatism and gout		7			4	8
50. Diabetes		1			1	
52. Addison's disease		1			1	
55. Other general diseases		3			3	
56. Alcoholism (acute or chronic)	1	2			3	
59. Other chronic poisonings	12	599			603	8
61. Simple meningitis		2	2			
62. Locomotor ataxia		1			1	
63. Other diseases of the spinal cord	1				1	
66. Paralysis without specified cause	3	7			7	8
67. General paralysis of the insane		1		1		
68. Other forms of mental alienation		19		18		1
69. Epilepsy		1			1	
73a. Hysteria	1	2			3	
73b. Neuralgia and neuritis	1	5			6	
74. Other diseases of the nervous system		1				1
75. Diseases of the eyes and their annexa	1				1	
75b. Trachoma		1			1	
75c. Other diseases of the eyes and their annexa	4	95			98	1
76. Diseases of the ears		2			2	
78. Acute endocarditis		1	1			
79. Organic diseases of the heart	2	11	3		8	2
81. Diseases of the arteries, atheroma, aneurysm, etc	1	4			4	1
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	7	84			88	3
84. Diseases of the lymphatic system (lymphangitis, etc.)		5			5	
88. Diseases of the thyreoid body		2			2	
89. Acute bronchitis		12			12	
90. Chronic bronchitis		8			8	
91. Bronchopneumonia	2	2	1		3	
92. Pneumonia	4	24	7		21	
93. Pleurisy	5	14		1	16	2
95. Gangrene of the lungs	1	8	7		2	
96. Asthma	4	39			39	4
98. Other diseases of the respiratory system (tuberculosis excepted)		1			1	
99a. Diseases of the teeth and gums		2			2	
99b. Other diseases of the mouth and annexa		3			3	
100. Diseases of the pharynx	1	2			8	
101. Diseases of the œsophagus		1			1	
102. Ulcer of the stomach		2	1		1	
103. Other diseases of the stomach (cancer excepted)		10			10	
105. Diarrhœa and enteritis (2 years and over)		2			2	
106. Ankylostomiasis	10	1,734			1,735	9
107. Intestinal parasites	30	2,016			2,024	22
108. Appendicitis and typhlitis	1	15			16	
109. Hernia, intestinal obstruction	8	78			83	3
110a. Diseases of the anus and fæcal fistulas	1	19			19	1
110b. Other diseases of the intestines	1	26			27	
113. Cirrhosis of the liver		3	2		1	
115. Other diseases of the liver		3	1		2	
116. Diseases of the spleen		2			2	
117. Simple peritonitis (nonpuerperal)		1	1			
119. Acute nephritis						
120. Bright's disease	1	10	2		8	1
125. Diseases of the urethra, urinary abscess, etc		4			4	
127. Nonvenereal diseases of the male genital organs	1	102			102	1
130a. Metritis		1			1	
133. Nonpuerperal diseases of the breast (cancer excepted)		1			1	
134a. Normal labor	1	7		1	7	
134b. Accidents of pregnancy	1	5			5	1
136. Other accidents of labor		1			1	
143. Furuncle		5			5	
144. Acute abscess		38			37	1

Prison Sanitation Division—Continued.

BILIBID PRISON HOSPITAL REPORT OF SICK—Continued.

Diseases.	Remaining at last report	Admitted.	Died.	Transferred.	Discharged.	Remaining.
145a. Trichophytosis (tineas and peladas)		4			2	2
145b. Scabies		19			18	1
145c. Other diseases of the skin and annexa	2	33			34	1
146. Diseases of the bones (tuberculosis excepted)	1	4			4	1
147. Diseases of the joints (tuberculosis and rheumatism excepted)		4			4	
149. Other diseases of the organs of locomotion	1	5			5	1
150. Congenital malformations (stillbirths not included)		13			12	1
154. Senility	2	2			4	
165b. Other acute poisonings		1			1	
171. Traumatism by cutting or piercing instruments		8			8	
172. Traumatism by fall		1			1	
174. Traumatism by machines		1			1	
175. Traumatism by other crushing		1			1	
185. Fractures (cause not specified)		3			3	
185a. Dislocations		1			1	
185c. Fractures	1	2			3	
186. Other external violence		11			11	
189a. Cause of death not specified or ill-defined	13	233	1		227	18
189b. Malingering		1			1	
Total	291	6,532	133	34	6,376	280

REPORT OF DEATHS.

Diseases.	Presidio.				Carcel.					Conditions.			
	Filipinos.		Chinese.		Filipinos.		Chinese.						
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Total.	Married.	Single.	Widowed.	Unknown.
31. Abdominal tuberculosis	3				1				4	3		1	
78. Acute endocarditis					1				1	1			
27. Beriberi	1								1		1		
120. Bright's disease	1				1				2		1	1	
91. Bronchopneumonia	1								1	1			
40. Cancer and other malignant tumors of the stomach, liver	1								1	1			
113. Cirrhosis of the liver	2								2		1	1	
95. Gangrene of the lungs	7								7	3	2	2	
35. Generalized tuberculosis	1				1				2	1		1	
186. Legally executed					6				6	5		1	
79. Organic diseases of the heart	1				2				3	2		1	
115. Other diseases of the liver					1				1	1			
68. Other forms of mental alienation	3	1			1				5	2	2	1	
92. Pneumonia	4				3				7	1	2	3	1
20. Purulent infection and septichæmia	1								1			1	
61. Simple meningitis	2								2	1	1		
28. Tuberculosis of the lungs	80				13		3		96	51	32	13	
102. Ulcer of the stomach							1		1	1			
117. Simple peritonitis (non-puerperal)	1								1	1			
189. Causes of death not specified or ill-defined					1				1	1			
Total	109	1			31		4		145	76	42	26	1

Died in Bilibid Hospital	**132**
Legally executed	**6**
Died in San Lazaro Hospital	**7**
Total	**145**

Prison Sanitation Division—Continued.

IWAHIG PENAL COLONY SICK REPORT.

Diseases.	Remaining July 1, 1912.	Admitted.	Died.	Discharged.	Remaining.
1. Typhoid fever		1	1		
4. Malaria	3	619	3	614	5
10. Influenza		3		3	
14. Dysentery	2	15	1	16	
17. Leprosy		1		1	
19. Other epidemic diseases		7		7	
20. Purulent infection and septichæmia		27		25	2
27. Beriberi		1		1	
28. Tuberculosis of the lungs	8	164	8	149	15
37. Syphilis, tertiary	1	4	1	4	
34. Tuberculosis of other organs		2		2	
38b. Gonococcus infection		3		3	
46. Other tumors (tumors of the female genital organs excepted)		3		3	
47. Acute articular rheumatism		4		3	1
48. Chronic rheumatism and gout		4		4	
64. Cerebral hæmorrhage, apoplexy		1		1	
66. Paralysis without specified cause		1			1
73b. Neuralgia and neuritis		1		1	
75. Diseases of the eyes and their annexa	1	7		8	
78. Acute endocarditis	1	2		3	
79. Organic diseases of the heart		2		2	
81. Diseases of the arteries, atheroma, aneurysm, etc		6		6	
84. Diseases of the lymphatic system (lymphangitis, etc		6		6	
85. Hæmorrhage; other diseases of the circulatory system		2		2	
89. Acute bronchitis		26		26	
90. Chronic bronchitis		6		6	
91. Bronchopneumonia		7	2	5	
93. Pleurisy		4		4	
94. Pulmonary congestion, pulmonary apoplexy		10		9	1
99. Diseases of the mouth and annexa		6		6	
100. Diseases of the pharynx		2		2	
103. Other diseases of the stomach (cancer excepted)		4		4	
105. Diarrhœa and enteritis (2 years and over)		18		18	
106. Ankylostomiasis		25		25	
107. Intestinal parasites		7		7	
108. Appendicitis and typhlitis		1		1	
109. Hernia, intestinal obstruction		2	1	1	
110. Other diseases of the intestines		5		5	
113. Cirrhosis of the liver		1		1	
115. Other diseases of the liver		20		20	
119. Acute nephritis		6		5	1
120. Bright's disease	1	11	1	10	1
127. Nonvenereal diseases of the male genital organs		1		1	
142. Gangrene		2		2	
143. Furuncle		1		1	
144. Acute abscess	1	20		21	
145c. Other diseases of the skin and annexa		25		25	
146. Diseases of the bones (tuberculosis excepted)		3		3	
147. Diseases of the joints (tuberculosis and rheumatism excepted)		1		1	
149. Other diseases of the organs of locomotion		13		13	
160. Suicide by cutting or piercing instruments		1		1	
167. Burns (conflagration excepted)		2		2	
171. Traumatism by cutting or piercing instruments	2	31		33	
174. Traumatism by machines		1		1	
175. Traumatism by other crushing		7		7	
176. Injuries by animals		9		9	
179. Effects of heat		1		1	
184. Homicide by other means		2	1	1	
186. Other external violence	2	19		20	1
189. Cause of death not specified or ill-defined		25		22	3
Total	22	1,211	19	1,183	31

Prison Sanitation Division—Continued.

REPORT OF SICK AND WOUNDED AT STOCKADE HOSPITAL, CORREGIDOR.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
4. Malaria	1	2			3	
5. Smallpox		2			2	
6. Measles		12			12	
14. Dysentery	1	19			19	1
19. Other epidemic diseases	13	66		4	73	2
28. Tuberculosis of the lungs		7		7		
39b. Gonococcus infection		23		5	14	4
46. Other tumors (tumors of the female genital organs excepted)	1	4			5	
47. Acute articular rheumatism		1			1	
55. Other general diseases		1				1
68. Other forms of mental alienation		1		1		
69. Epilepsy		3		1	2	
73. Neuralgia and neuritis		5			5	
74. Other diseases of the nervous system		4			4	
75a. Follicular conjunctivitis		1			1	
75c. Other diseases of the eyes and their annexa	1	476			476	1
76. Diseases of the ears		4			4	
79. Organic diseases of the heart		1		1		
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)		5			5	
84. Diseases of the lymphatic system (lymphangitis, etc.)		6			6	
86. Diseases of the nasal fossæ		2			1	1
89. Acute bronchitis		28		1	27	
91. Bronchopneumonia		8			8	
92. Pneumonia		14	1	1	12	
93. Pleurisy		2			2	
94. Pulmonary congestion, pulmonary apoplexy		3	1		2	
96. Asthma		2		2		
97. Pulmonary emphysema		1			1	
99a. Diseases of the teeth and gums		2			2	
103. Diseases of the stomach (cancer excepted)		5		2	3	
105. Diarrhœa and enteritis (2 years and over)		4			4	
106. Ankylostomiasis		28			26	2
107. Intestinal parasites		4		2	2	
109. Hernia, intestinal obstruction	1	3		1	3	
110. Other diseases of the intestines		41		1	40	
122. Other diseases of the kidneys and annexa		1			1	
124. Diseases of the bladder		3			1	2
125. Diseases of the urethra, urinary abscess, etc		1		1		
127. Nonvenereal diseases of the male genital organs		10			9	1
143. Furuncle		16			14	2
144. Acute abscess		76			68	8
145a. Trichophytosis (tineas and peladas)		7		4	3	
145c. Other diseases of the skin and annexa		11			8	3
147. Diseases of the joints (tuberculosis and rheumatism excepted)		1		1		
149. Other diseases of the organs of locomotion		5			5	
167. Burns (conflagration excepted)		11			11	
171. Traumatism by cutting or piercing instruments		33			31	2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)		3	1	1		1
185. Fractures		1				1
185a. Dislocations	1	2	1		2	
185b. Sprains		1				1
186. Other external violence	1	223		3	220	1
189a. Causes of death not specified or ill-defined	9	71	1	2	65	12
189b. No disease; feigned disease		1			1	
Total	29	1,267	5	41	1,204	46

SANITARY ENGINEERING DIVISION.

STATISTICAL INFORMATION BY DISTRICTS, MANILA, P. I., ONLY, FISCAL YEAR 1913.

	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Orders pending June 30, 1912						371
Orders issued:						
Minor orders	57	369	298	245	52	1,021
Sewer orders	19	54	5			78
Vacating orders	89	156	12	39	7	303
Total	165	579	315	284	59	1,402
Orders completed:						
Minor orders	55	319	280	122	40	816
Sewer orders	34	34	19		3	90
Vacating orders	53	127	13	57	5	255
Total	142	480	312	179	48	1,161
Orders canceled:						
Minor orders	2	14	17	22	7	62
Sewer orders	1	2				3
Vacating orders	3	10	2	1		16
Total	6	26	19	23	7	81
Orders pending June 30, 1913:						
Minor orders	12	60	20	108	5	205
Sewer orders	56	132	52	13	3	256
Vacating orders	34	20	1	13	2	70
Total	102	212	73	134	10	531
Total legal prosecutions	12	28		9		49
Amount of fines		₱185				₱185

	Health districts.					
	Intramuros.	Meisic.	Sampaloc.	Tondo.	Paco.	Total.
Strong material plans approved for new buildings including additions and alterations	115	200	104	53	36	508
Strong material plans canceled		2				2
Permits for minor building construction:						
Approved	120	175	92	36	32	455
Disapproved	58	120	27	26	16	247
Grand total	293	497	223	115	84	1,212
New buildings completed	187	221	209	50	51	718
Light and mixed material structures:						
Permits approved		1	40	222	126	389
Permits disapproved			12	31	19	62
Total		1	52	253	145	451
Total number of building projects passed upon	480	719	484	418	280	2,381
Plumbing permits issued	235	341	145	45	65	831
Plumbing projects completed	225	310	112	56	78	781
Premises connected to the sanitary sewer to July 1, 1912	801	1,058	445	95	175	2,574
Premises connected during year	153	210	70	35	35	503
Total, June 30, 1913	954	1,268	515	130	210	3,077

SAN LAZARO HOSPITALS DIVISION.

Patients in hospital July 1, 1912	580
Patients admitted during the year	1,953
Patients discharged during the year	1,298
Patients transferred during the year	328
Patients escaped during the year	59
Patients died during the year	279
Patients remaining in hospital June 30, 1913	520

AVERAGE NUMBER OF PATIENTS SUBSISTED PER DAY.

July, 1912	453	January, 1913	444
August, 1912	463	February, 1913	392
September, 1912	407	March, 1913	421
October, 1912	391	April, 1913	452
November, 1912	409	May, 1913	502
December, 1912	452	June, 1913	520

AVERAGE COST OF SUBSISTENCE PER DAY.

July, 1912	₱0.321	January, 1913	₱0.277
August, 1912	.3208	February, 1913	.299
September, 1912	.306	March, 1913	.297
October, 1912	.308	April, 1913	.273
November, 1912	.342	May, 1913	.253
December, 1912	.335	June, 1913	.248

INSANE AND LEPER DEPARTMENTS.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
INSANE DEPARTMENT.											
In hospital at last report	5		2		202	58	2		3		272
Admitted	43	2	6	2	76	33	15			2	179
Discharged	39	2	4	1	35	20	4		1	2	108
Transferred	1		1		2	2	7				13
Escaped					4						4
Died	4		1		19	3	2				29
Remaining	4		2	1	118	66	4		2		297
LEPER DEPARTMENT.											
In hospital at last report					143	56	1				200
Admitted			1		247	100	12				360
Discharged					28	17	10				55
Transferred					210	94					304
Escaped					37	13					50
Died					6	4					10
Remaining			1		109	28	3				141

BUBONIC PLAGUE DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital July 1, 1912											
Admitted		1			51	7	7	1			67
Discharged		1			27	2	3				33
Transferred											
Died					24	5	4	1			34
Remaining											

Of the 67 cases admitted, 27 were diagnosed "not plague," and 1 case as suspected plague.

San Lazaro Hospitals Division—Continued.

BY MONTHS.

Year and month.	In hospital July 1, 1912.	Admitted.	Discharged.	Transferred.	Died.	Remaining.
1912.						
July						
August		7	4		3	
September		2	1			1
October		26	5		15	7
November		13	14		4	2
December		5	1		2	4
1913.						
January		1	4		1	
February		3			3	
March		2	1		1	
April		4			4	
May		3			1	2
June		1	3			
Total		67	33		34	

VARIOLOID DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital at last report					5	2					7
Admitted	1		1		82	45			5	4	138
Discharged	1		1		79	46			5	4	136
Transferred											
Escaped					5						5
Died					1						1
Remaining					2	1					3

BY MONTHS.

Year and month.	In hospital July 1, 1912.	Admitted.	Discharged.	Escaped.	Died.	Remaining.
1912.						
July	7	2	9			
August		4				4
September		3	2	5		
October		1			1	
November						
December		5	3			2
1913.						
January		15	4			13
February		15	19			9
March		29	29			9
April		31	32			8
May		24	24			8
June		9	14			3
Total	7	138	136	5	1	3

Note.—Case admitted in October diagnosed varicella; died of congestion of lungs.

MEASLES DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital July 1, 1912					1	4					5
Admitted	2	1	1	1	15	13	1		1		35
Discharged	1	1	1	1	16	15	1		1		37
Transferred	1										1
Died						1					1
Remaining						1					1

San Lazaro Hospitals Division—Continued.

BY MONTHS.

Year and month.	In hospital July 1, 1912.	Admitted.	Discharged.	Transferred.	Died.	Remaining.
1912.						
July	5	9	11	1	1	1
August		5	4			2
September		2	4			
October		2	1			1
November		1	2			
December		2	2			
1913.						
January		2	1			1
February			1			
March		2	2			
April						
May		5	4			1
June		5	5			1
Total	5	35	37	1	1	1

TUBERCULOSIS DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.		Others.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
In hospital July 1, 1912	2				31	9					42
Admitted			5	1	603	166	2		7		784
Discharged	2		5	1	487	121			5		621
Transferred					1	1					2
Died					115	39	2		2		158
Remaining					31	14					45

SUSPECTED CHOLERA DEPARTMENT.

In hospital July 1, 1912											
Admitted	1				10	2	1				14
Discharged, not cholera	1				7	2	1				11
Died, not cholera					3						3
Transferred											
Remaining											

OPIUM HABIT DEPARTMENT.

In hospital July 1, 1912											
Admitted						1	67				68
Discharged							40				40
Remaining						1	27				28

DIPHTHERIA DEPARTMENT.

In hospital July 1, 1912											
Admitted	8	2	8	7	76	45				1	147
Discharged	8	2	8	7	69	39				1	134
Died					7	6					13
Remaining											

Of the 147 cases admitted, 104 were contacts only and 3 not diphtheria.

San Lazaro Hospitals Division—Continued.

MISCELLANEOUS DISEASES.

Diseases.	In hospital July 1, 1912.	Admitted.	Discharged.	Died.	Transferred.	Remaining.
Tetanus		30	10	19		1
Parotitis	4	44	47			1
Erysipelas		1	1			
Syphilis		1	1			
Typhoid fever		2	1	1		
Dog bite		2	2			
Carcinoma		3	1	1		1
Yaws		1	1			
Observation		76	58	8	8	2
Dysentery		2	1	1		
Total	4	162	123	30	8	5

One case admitted as typhoid fever, suspected only.

SAN LAZARO MORGUE REPORT.

Bodies remaining from last report	
Bodies received:	
Bubonic plague	45
Suspected plague	2
Leprosy	10
Diphtheria	13
Tetanus	19
Typhoid fever	5
Bacillary dysentery	6
Pulmonary tuberculosis	168
Stillborn	5
Measles	1
Drowning	3
Carcinoma	1
Violence	1
Other diseases	74
Bodies received—Continued.	
Undetermined	1
Total	354
Bodies dropped:	
Buried by city	226
Buried by family	56
Transferred to Army morgue	2
Transferred to city morgue	17
Turned over to family	14
Cremated	37
Remaining in morgue	2
Total	354

MORGUE AND CREMATORY DEPARTMENT.

Diseases.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Bubonic plague	1	4	2	16	4	4	1	3	3	5	2		45
Suspected plague											1	1	2
Leprosy	2	2	1	1			1				2	1	10
Diphtheria	2	1	1		3	1			4			1	13
Tetanus	2	2	2	1	4	1	1	2		1	2	1	19
Typhoid fever					1		2	2					5
Bacillary dysentery	1	2			1	1			1				6
Pulmonary tuberculosis	11	8	19	18	17	16	15	8	13	13	14	16	168
Stillborn			1	1			2				1		5
Other diseases	6	11	1	11	3	4	8	5	5	10	6	4	74
Measles	1												1
Undetermined			1										1
Drowning			1	2									3
Carcinoma									1				1
Violence										1			1
Total	26	30	29	50	33	27	30	20	27	30	28	24	354

SOUTHERN ISLANDS HOSPITAL DIVISION.

HOSPITAL CASES.

(April, May, and June only.)

Diseases.	Cases
1. Typhoid fever	1
14. Dysentery	3
19. Other epidemic diseases	9
27. Beriberi	3
31. Abdominal tuberculosis	1
34. Tuberculosis of other organs	1
37. Syphilis	4
38b. Gonococcus infection	1
46. Other tumors (tumors of the female genital organs excepted)	3
47. Acute articular rheumatism	1
54. Anæmia, chlorosis	1
56. Alcoholism (acute or chronic)	1
66. Paralysis without specified cause	1
68. Other forms of mental alienation	1
73b. Neuralgia and neuritis	1
75. Diseases of the eyes and their annexa	6
76. Diseases of the ears	1
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	1
99b. Other diseases of the mouth and annexa	1
102. Ulcer of the stomach	1
105. Diarrhœa and enteritis (2 years and over)	2
107. Intestinal parasites	2
108. Appendicitis and typhlitis	1
109. Hernias, intestinal obstructions	1
110. Other diseases of the intestines	1
117. Simple peritonitis (nonpuerperal)	2
123. Calculi of the urinary passages	1
124. Diseases of the bladder	2

Diseases.	Cases
130a. Metritis	5
130b. Other diseases of the uterus	2
131. Cysts and other tumors of the ovary	3
134a. Normal labor	2
143. Furuncle	1
144. Acute abcess	2
145c. Other diseases of the skin and annexa	6
146. Diseases of the bones (tuberculosis excepted)	2
147. Diseases of the joints (tuberculosis and rheumatism excepted)	1
151a. Nurslings discharged from hospital without disease	3
151b. Congenital debility, icterus, and sclerema	1
155. Suicide by poison	1
160. Suicide by cutting or piercing instruments	2
163a. Venomous bites and stings	1
167. Burns (conflagration excepted)	4
171. Traumatism by cutting or piercing instruments	7
183. Homicide by cutting or piercing instruments	11
185c. Fractures (cause not specified)	1
186. Other external violence	10
187. Ill-defined organic disease	3
189a. Cause of death not specified or ill-defined	1
Total	123

SUMMARY OF HOSPITAL CASES.

Total number of patients	114
Total number of cases of disease	121
Total number of classified diseases	49

OUT CLINIC.

(April, May, and June only.)

Diseases.	Cases
4. Malaria	3
14. Dysentery	3
19. Other epidemic diseases	3
27. Beriberi	4
28. Tuberculosis of the lungs	1
34. Tuberculosis of other organs	7
37. Syphilis	2
38a. Soft chancre	1
38b. Gonococcus infection	6
43. Cancer and other malignant tumors of the breast	1
45. Cancer and other malignant tumors of other organs or of organs not specified	1
46. Other tumors (tumors of the female genital organs excepted)	1
47. Acute articular rheumatism	4
48. Chronic rheumatism and gout	7
54. Anæmia, chlorosis	14
68. Other forms of mental alienation	2
69. Epilepsy	1
73a. Hysteria	1
74. Other diseases of the nervous system	6
75. Diseases of the eyes and their annexa	8
75b. Trachoma	5
75c. Other diseases of the eyes and their annexa	7
76. Diseases of the ears	7
79. Organic diseases of the heart	1
83. Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.)	1
84. Diseases of the lymphatic system (lymphangitis, etc.)	2
86. Diseases of the nasal fossæ	1
88. Diseases of the thyreoid body	1

Diseases.	Cases
89. Acute bronchitis	7
90. Chronic bronchitis	4
96. Asthma	1
99a. Diseases of the teeth and gums	3
99b. Other diseases of the mouth and annexa	4
100. Diseases of the pharynx	1
103. Diseases of the stomach	13
105. Diarrhœa and enteritis (2 years and over)	2
107. Intestinal parasites	2
109. Hernia, intestinal obstruction	1
110. Other diseases of the intestines	3
124. Diseases of the bladder	2
129. Uterine tumor	1
130a. Metritis	1
130b. Other diseases of the uterus	4
143. Furuncle	2
144. Acute abscess	20
145b. Scabies	1
145c. Other diseases of the skin and annexa	13
146. Diseases of the bones (tuberculosis excepted)	3
167. Burns (conflagration excepted)	2
171. Traumatism by cutting or piercing instruments	76
172. Traumatism by fall	2
183. Homicide by cutting or piercing instruments	29
185a. Dislocations	1
185b. Sprains	3
186. Other external violence	17
Total	319

Southern Islands Hospital Division—Continued.

SUMMARY OF OUT CLINIC.

Total number of patients	310
Total number of cases of diseases	310
Total number of classified diseases	55

MISCELLANEOUS STATISTICS, SUMMARY, ETC.

Nationality of patients admitted to hospital:	
American	9
European	8
Filipino	91
Other Asiatics	6
Total, of which 34 were females and 80 males	114

Patients admitted to hospital	114
Patients discharged	85
Patients died	9
Patients remaining	20
Births	2
Prescriptions filled	332
Surgical dressings	1,967
Visits by out patients	1,239
Major operations	15
Minor operations	64

Laboratory examinations:	
Fæces	7
Blood	1
Sputum	1
Urine	71
Miscellaneous	1
Total, of which 70 were Filipinos, 6 Americans, 3 Europeans, 1 Syrian, and 1 Indian	81

SECTION 4.—MISCELLANEOUS.

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Artesian wells completed during the fiscal year........ 285
Statement of expenditures 286

ARTESIAN WELLS COMPLETED DURING THE FISCAL YEAR.

BY THE BUREAU OF PUBLIC WORKS.

Provinces and towns.	Number.	Depth.	Flow per minute.	Pumps per minute.	Successful.	Unsuccessful.
Albay:		*Feet.*	*Gallons.*	*Gallons.*		
Ligao	1	300	10		1	
Oas	1	500		75	1	
Legaspi	1	630				1
Albay	1	467				1
Ambos Camarines:						
Tigaon	2	78		15	1	1
San Jose	5	675		68	5	
Lagonoy	3	238		62	3	
Caramoan	2	342		60	2	
Batangas:						
Bauan	3	1,454	100	60	3	
Tanauan	2	1,615		100	2	
Lipa	6	1,822		255	6	
Santo Tomas	1	451		50	1	
Alitagtag	2	983		50	1	1
Taal	2	1,070		50	1	
Bohol: Loay	1	1,385				1
Bulacan:						
Angat	1	465	80		1	
Quingua	1	710	50		1	
Pulilan	1	768	40		1	
San Ildefonzo	1	480	20		1	
Norzagaray	1	728		18	1	
Cagayan: Tuguegarao	1	1,296		30	1	
Cavite:						
Santa Cruz de Malabon	3	1,375	50		3	
San Francisco de Malabon	4	1,605	42	15	4	
Cebu:						
Dalaguete	1	875		60	1	
Argao	1	916				1
Iloilo:						
Iloilo	11	2,699	136	30	11	
Barotac Nuevo	1	1,000		25	1	
Ilocos Sur:						
Candon	2	913		24	2	
Narvacan	1	630				1
Laguna:						
Santa Cruz	3	1,765	521		3	
Pila	1	405	85		1	
Lumbang	1	300	35		1	
Magdalena	1	627		50	1	
Manila	2	1,035		115	2	
Misamis: Cagayan	2	1,165		210	2	
Mountain: Tagudin	1	304		15	1	
Occidental Negros: San Carlos	2	1,250	15		1	1
Pampanga:						
Candaba	3	1,043		217	3	
Arayat	2	1,115		130	2	
Pangasinan:						
San Jacinto	1	450	25		1	
Alcala	1	597	175		1	
Sual	1	320	20		1	
Santo Tomas	1	589	16		1	
Lingayen	1	1,255	200		1	
Binalonan	2	785		120	1	1
San Isidro	1	412				
Manaoag	2	1,326				2
Rosales	1	710				1
Rizal:						
Pasay	3	1,140	23	30	3	
Malabon	2	1,070	3	40	2	
Jalajala	1	367		20	1	
Parañaque	2	760		105	2	
Pateros	1	950		30	1	
San Mateo	1	872		50	1	
Binangonan	2	1,040		150	2	
Morong	2	1,190		50	2	
Montalban	2	595		60	2	
Tanay	1	300		100	1	
Pililla	1	229		9	1	
Samar: Wright	1	1,020	1½		1	
Sorsogon:						
Sorsogon	3	1,229	46		3	
Bacon	1	572		30	1	
Tarlac: Camiling	3	1,719		115	3	
Tayabas:						
Atimonan	2	670		10	1	1
Gumaca	1	460				1
Total	121	56,106	1,693½	2,703	105	14

Artesian wells completed during the fiscal year—Continued.

BY PRIVATE PARTIES.

Bataan:						
Balanga	1	90	12		1	
Pilar	1	100	3		1	
Total	2	190	15		2	

BY PROVINCIAL JET RIGS.

Bataan:						
Hermosa	1	190	150		1	
Orani	2	440	44		2	
Samal	5	622	104		5	
Abucay	3	340	22		3	
Balanga	5	460	83		5	
Bohol:						
Cortes	1	53		12	1	
Tubigon	2	168		30	2	
Bulacan:						
Quingua	1	256	25		1	
Paombong	2	550	52		2	
Meycauayan	4	972	142		4	
Bulacan	1	275	20		1	
Hagonoy	4	1,258	81		4	
Malolos	4	1,003	183		4	
Polo	1	295		5	1	
Calumpit	1	35		12	1	
Obando	1	107		12	1	
Pampanga:						
Arayat	9	1,524	79		7	2
Apalit	6	1,048	55		6	
Bacolor	8	1,215	121		6	2
Guagua	11	1,912	233		10	1
Lubao	14	2,191	336		13	1
Macabebe	9	1,625	206		9	
Masantol	5	963	139		5	
Mexico	6	1,103	76		6	
San Fernando	10	1,634	175		10	
San Luis	1	176	20		1	
Santa Rita	6	957	219		6	
Sexmoan	9	1,397	167		9	
Candaba	4	692				4
Tarlac: Paniqui	1	160	10		1	
Total	137	23,621	2,742	71	127	10

STATEMENT OF EXPENDITURES.

The following statement shows the expenditures made during the fiscal year 1913, chargeable against the appropriation for the Bureau of Health during that period:

Amount carried from last year's appropriation	₱53,797.84
Amount allotted for the year	1,417,000.00
Amount transferred by the Governor-General	65,000.00
Amount restored	5,000.00
Amount appropriated by Act 2261	56,034.50
Total	1,596,832.34

Expenditures chargeable are as follows:

GENERAL.

Salaries and wages:	
General office	₱12,359.00
Clerical division	28,158.40
Statistical division	12,609.94
Engineering division	21,643.85
Property division	11,398.42
Central free dispensary	3,429.83
Station A	30,890.59
Station C	12,917.81
Station I	8,845.60
Station J	9,893.32
Station L	6,885.34

GENERAL—continued.

Salaries and wages—Continued.	
Disinfecting division	₱13,060.33
San Juan Tuberculosis Hospital	1,324.67
Boards of examiners	1,698.83
Cebu Hospital	575.67
Iloilo Hospital	3,600.00
Commutation of leave	21,393.81
Incidental	1,685.34
Infant mortality	452.78
Stationery and office supplies:	
General	2,243.11
Stations	514.64

Statement of expenditures—Continued.

GENERAL—continued.

Transportation:	
Engineering division	₱1,787.08
Disinfecting division	2,254.45
Station A	1,032.30
Station C	1,115.60
Station I	960.80
Station L	960.00
General	119.90
Commutation of bicycle transportation	931.86
Incidental	8,669.76
Postage and telegrams	1,329.37
Cablegrams	72.80
Printing and binding	19,708.95
Library, periodicals	140.48
Street-car tickets	4,180.00
Hospicio de San José	43,380.35
Colegio de Santa Isabel	2,496.00
Asilo de San Vicente de Paul	3,600.00
Diocese of Jaro, Iloilo	637.00
Rental of Station C, Tondo	240.00
Rental of post-office box	32.00
Transportation of employees from and to the United States	5,514.93
Traveling expenses and per diems of employees	1,688.42
Disinfectants	12,926.26
Central Free Dispensary, Medicines	3,654.68
Medicines, medical and surgical supplies for indigent persons	9,026.49
San Juan Tuberculosis Hospital, medicines incidental	571.59
Incidental	18.19
Tuberculosis Free Dispensary, Medicines	366.67
General freight	2,295.22
Iloilo Hospital, miscellaneous expenses	228.00
Cebu Hospital, medicines and incidental	6,858.47
Rental of telephones:	
General	556.74
Stations	922.08
Infant mortality	48.29
Maintenance, repairs	9,068.63
Equipment	(2,306.83)
Equipment, Cebu Hospital	1,731.39
Miscellaneous supplies	(57,749.03)
Total	295,150.12

SIBUL SPRINGS DIVISION.

Salaries and wages	1,957.00
Traveling expenses	22.90
Incidental	174.45
Medicines	169.10
Maintenance, repairs	1.98
Equipment, construction	6.17
Total	2,331.60

INSPECTION DIVISION.

Salaries and wages:	
Medical inspectors	53,290.82
District health officers	58,229.01
Sanitary inspectors	2,680.00
Employees	3,948.96
Chauffeurs	1,332.83
Transportation	4,480.40
Photographs	678.43
Sera, miscellaneous	2,538.10
Incidental	66.12
Traveling expenses:	
Medical inspectors	1,629.86
District health officers	7,117.00
Sanitary inspectors	511.66
Maintenance, repairs	309.98
Equipment	541.73
Total	137,354.90

VACCINATION DIVISION.

Salaries and wages of vaccinators	₱4,680.21
Traveling expenses	1,142.93
Antiseptic supplies and dressings	567.62
Ice for virus	444.36
Vaccine virus	29,690.00
Total	36,525.12

SAN LAZARO HOSPITAL DIVISION.

Salaries and wages	36,301.71
Subsistence supplies	53,872.99
Light	5,077.56
Rental of telephone	402.73
Forage and horseshoeing	10.50
Transportation	55.20
Clothing lepers	272.68
Cigarettes and tobacco	561.57
Soap	306.00
Laundry allowances	360.37
Gratuity to lepers	577.60
Office supplies	138.96
Incidental	3,914.07
Medicine, medical and surgical supplies	10,176.69
Maintenance, repairs	170.97
Equipment	5,604.13
Total	117,803.73

PHILIPPINE GENERAL HOSPITAL DIVISION.

Salaries and wages:	
Employees	157,859.32
Pupil nurses	31,605.08
Temporary employees	2,901.64
Subsistence supplies	124,318.67
Commutation of subsistence and quarters	1,968.00
Light	14,192.45
Rental of telephones	3,402.36
Coal, oil, gas, and steam	13,858.34
Transportation	940.53
Office supplies	1,253.36
Hospital	44,314.29
Allowances	6,696.62
Maintenance of grounds	546.65
Incidental	2,418.02
Medicine, medical and surgical supplies	25,482.39
Miscellaneous supplies	31,414.92
Pupil nurses:	
Subsistence supplies	1,047.90
Laundry allowances	42.23
Incidental	480.95
Maintenance, repairs	5,541.23
Equipment	65,765.87
Permanent improvements	(3,024.17)
Total	533,026.65

BAGUIO HOSPITAL DIVISION.

Salaries and wages	10,347.35
Subsistence supplies	12,766.80
Office supplies	132.53
Fuel	697.29
Freight	1,184.20
Medicines, medical and surgical supplies	3,462.94
Light	1,202.00
Stamps	99.00
Incidental	2,485.35
Laundry, Hospital	1,376.59
Laundry allowances	544.54
Maintenance, repairs	2,214.68
Equipment	2,131.87
Permanent improvements	1,366.19
Total	40,011.33

Statement of expenditures—Continued.

CULION LEPER COLONY DIVISION.

Salaries and wages	₱31,601.61
Subsistence supplies:	
Leper mess	178,891.99
Employees' mess	13,635.11
Stationery and office supplies	941.26
Fuel and light	.80
Gratuity to lepers	27,353.40
Miscellaneous supplies	575.44
Incidental	15,216.62
Freight	5,520.52
Collection of lepers	20,718.54
Medicines, medical and surgical supplies	11,872.22
Stamps	80.31
Maintenance: Repairs	15,804.83
Equipment	1,800.57
Total	324,013.22

PRISON SANITATION DIVISION.

Salaries and wages	7,985.04
Commutation of subsistence and quarters	420.00
Laundry allowances	101.07
Medicines, medical and surgical supplies	8,889.24
Incidental	20.00
Total	17,415.35

SUPPRESSION AND EXTERMINATION OF EPIDEMIC DISEASES AND PESTS.

Salaries and wages	₱10,550.20
Traveling expenses	1,240.44
Medicines, incidentals, etc	3,546.23
Equipment	687.60
Total	16,024.47

SOUTHERN ISLANDS HOSPITAL.

Salaries and wages	6,478.38
Miscellaneous expenses	9,326.72
Repairs	92.63
Equipment	7,915.38
Total	23,813.11
Prior fiscal year	25,854.46
Prepayment	2,612.87
Total	28,467.33
Set aside for permanent improvements:	
Construction of Culion	50,000.00
Reconstruction of nurses' quarters, Baguio	5,000.00
Completion and equipment, Philippine General Hospital	24,592.35
Total	79,592.35
Total	1,651,529.28

In addition to the foregoing statement of actual expenditures are the following outstanding obligations chargeable to the appropriation of the Bureau and funds appropriated for same during the fiscal year 1913:

General:	
Salaries and wages—	
Station I	₱25.83
Station L	37.33
Traveling expenses of employees	6.00
Periodicals	20.28
Stationery and office supplies	5.60
Commutation of bicycle allowance	20.00
Transportation from and to United States	3,150.00
Street-car tickets	270.00
Freight	327.38
Incidental	533.74
Repairs	5.96
Miscellaneous supplies	5,323.05
Prior fiscal year	3,843.49
Total	13,568.66
Inspection division:	
Salaries and wages of district health officers	70.00
Traveling expenses—	
Medical inspectors	9.46
District health officers	97.15
Total	176.61
Philippine General Hospital:	
Salaries and wages—	
General employees	120.69
Pupil nurses	267.87
Subsistence supplies	16.35
Laundry allowance, pupil nurses	1.70
Light	6.90
Repairs	146.00
Total	559.51
Culion Leper Colony:	
Subsistence supplies	₱9,248.43
Gratuity to lepers	2,610.40
Collection of lepers	10,039.32
Freight	185.98
Total	22,084.13
Baguio Hospital:	
Freight	95.93
Incidental	8.65
Repairs	233.51
Total	338.09
San Lazaro Hospital:	
Gratuity to lepers	290.63
Vaccination division:	
Salaries and wages	530.00
Traveling expenses	300.00
Total	830.00
Suppression and extermination of epidemic diseases and pests, traveling expenses	6.96
Southern Islands Hospital:	
Salaries and wages	2.00
Miscellaneous expenses	2,474.51
Repairs	29.35
Total	2,505.86
Total	40,360.45

The following amounts as credit were collected during the year:

Refund salaries of district health officers	₱70,479.66
Philippine General Hospital	141,858.60
Baguio Hospital	9,231.89
Culion Leper Colony	5,009.82
Southern Islands Hospital	1,457.25
San Lazaro Hospital	9,471.81
Sibul Springs	1,278.20
Central Free Dispensary	201.00
Boards of examiners	5,304.00
General	7,615.51
Prior year income	4,021.65
Total receipts	255,929.39

RECAPITULATION.

Total amount made available during the year		1,596,832.34
Expenditures	₱1,651,529.28	
Accounts, outstanding	40,360.45	
	1,691,889.73	
Receipts	255,929.39	
		1,435,960.34
Balance		160,872.00
Prepayment		2,612.87
Total surplus		163,484.87

The estimated amount of ₱45,057.60 representing outstanding liabilities of the Bureau at the end of fiscal year 1913 for unfilled requisitions and purchase of cattle and nipa is not included in the preceding statement.

The following statement shows the expenditures made from sums appropriated by Acts 2186 and 2208 for the Bureau of Health for the non-Christian tribes in the Mountain Province and the Provinces of Nueva Vizcaya and Agusan:

Amount appropriated by Act 2186		₱54,400.00
Amount appropriated by Act 2208 (half)		54,400.00
Total		108,800.00
Expenditures chargeable are as follows:		
Salaries and wages		₱27,544.60
Traveling expenses		3,112.74
Laundry allowances		640.42
Subsistence supplies		6,711.93
Medicines		6,235.42
Incidentals		3,270.21
Repairs		831.78
Equipment		3,410.74
Total		51,757.84
Set aside for permanent improvements: Doctors' quarters, Bontoc Hospital		3,000.00
Total expenditures		54,757.84
Outstanding accounts:		
Salaries and wages	₱841.40	
Traveling expenses	241.08	
Subsistence supplies	513.84	
Freight	150.91	
Total outstanding accounts		1,747.23
Total		56,505.07

The following amounts were collected during the year:

Bontoc Hospital	₱1,637.56
Butuan Hospital	187.92
Bayombong Hospital	32.00
Total receipts	1,857.48
Total expenditures	54,647.59
Funds to be brought forward as balance from Act 2208	54,152.41
	108,800.00

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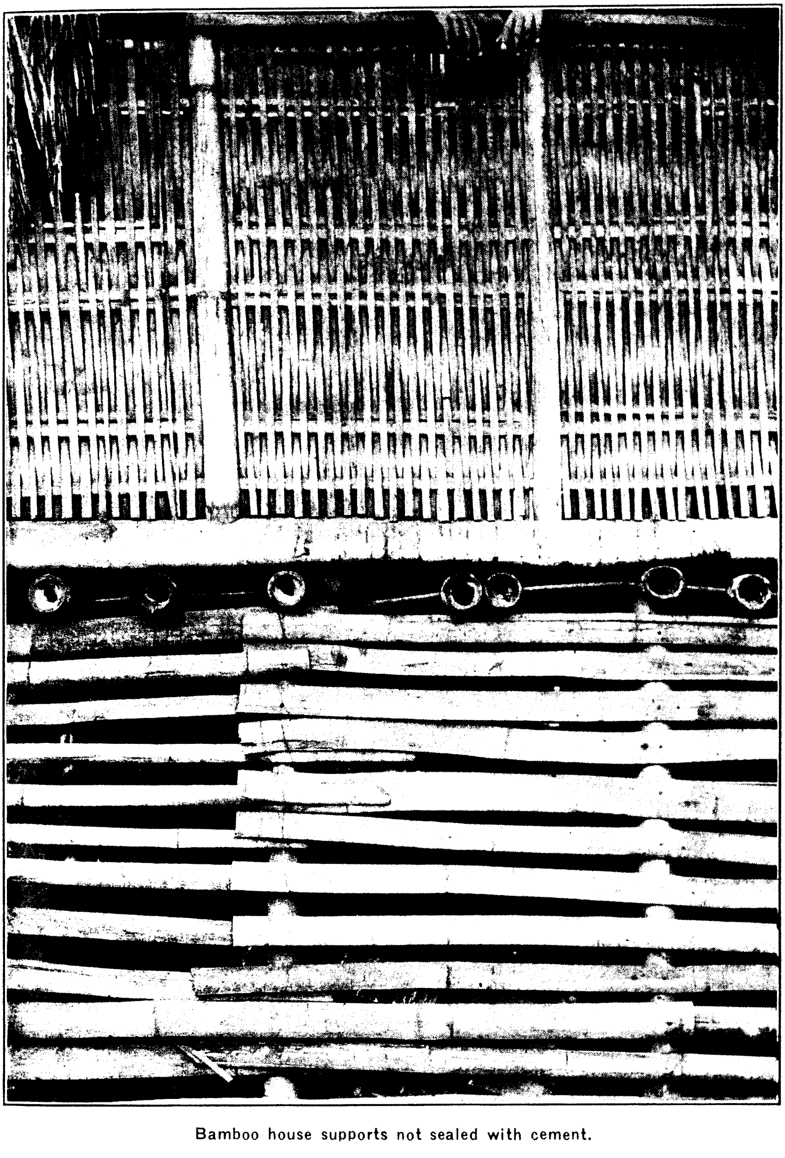
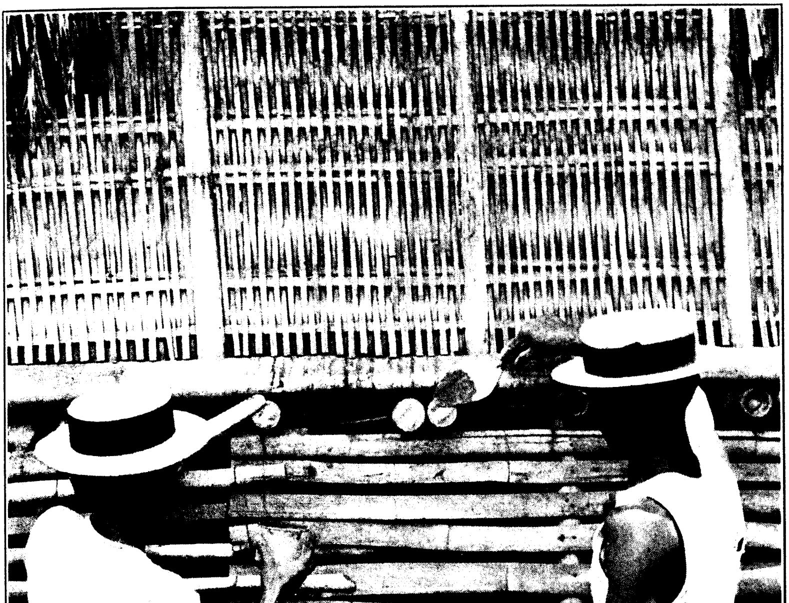
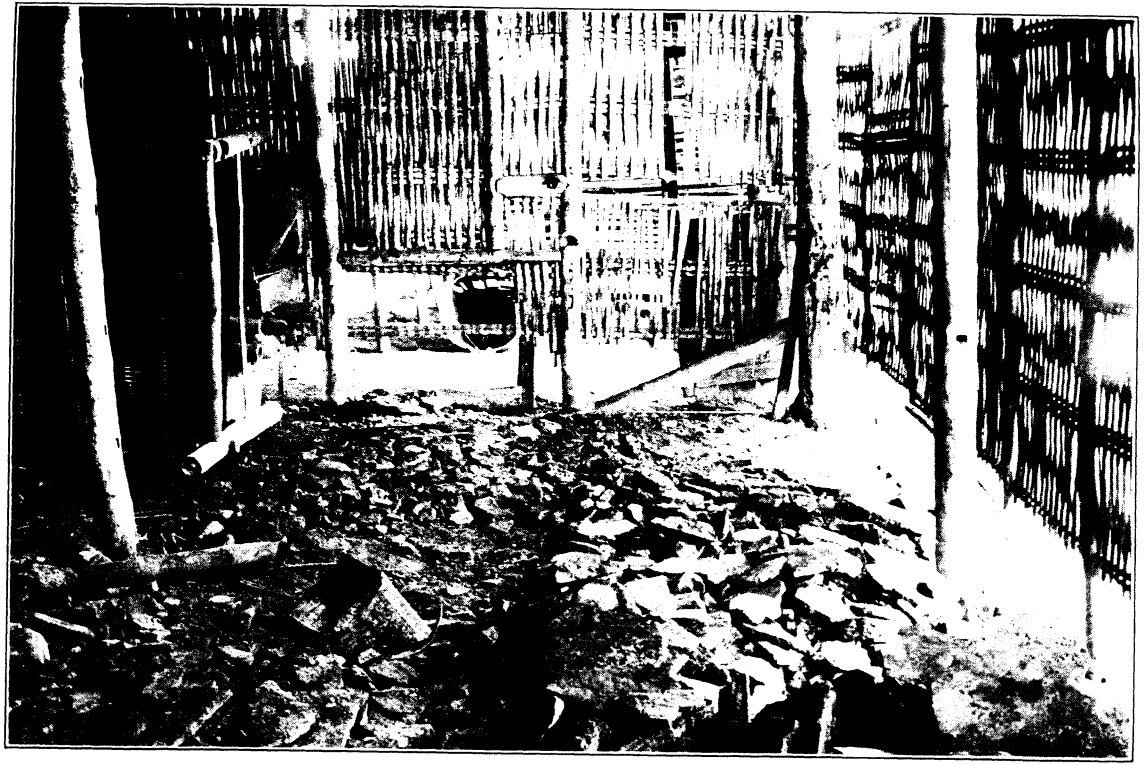


Bamboo house supports not sealed with cement.



Bamboo house supports sealed with cement to prevent entrance of rats.

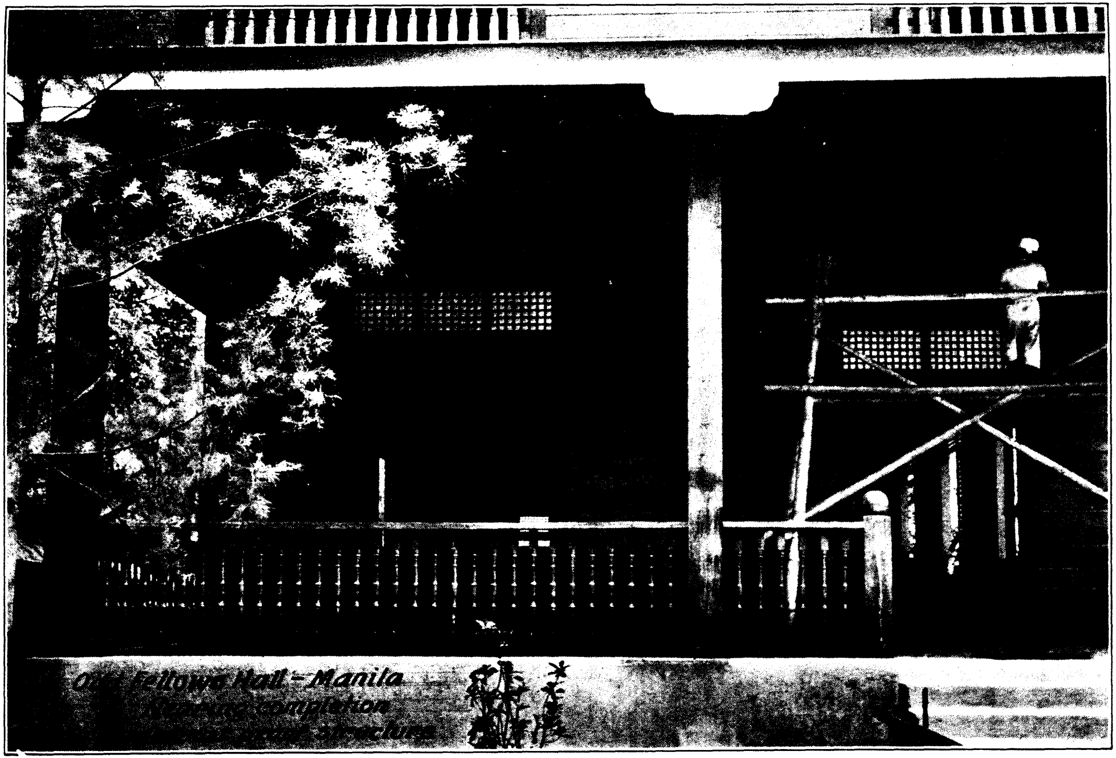


Cleaning and rat proofing in basement of 1226 Calle Juan Luna in which two cases of plague occurred.

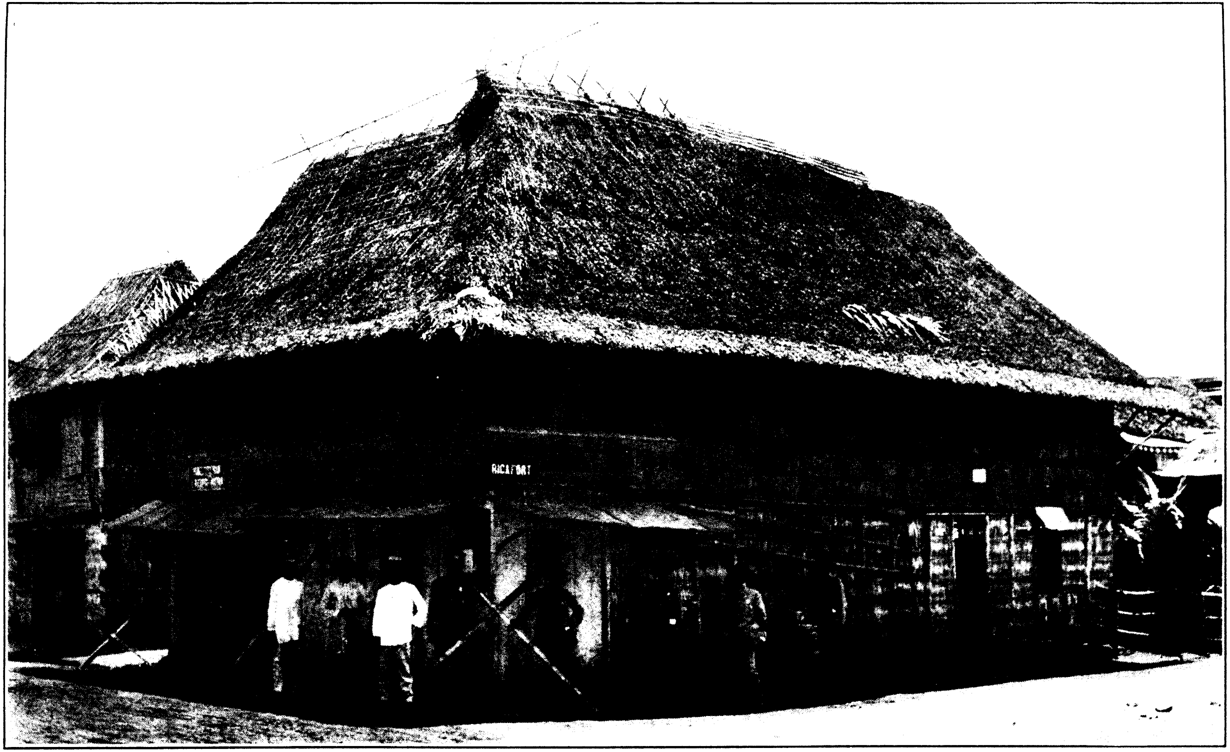
Interior of 1226 Calle Juan Luna in which two cases of plague occurred.

Cleaning and rat proofing in basement of 1226 Calle Juan Luna in which two cases of plague occurred.

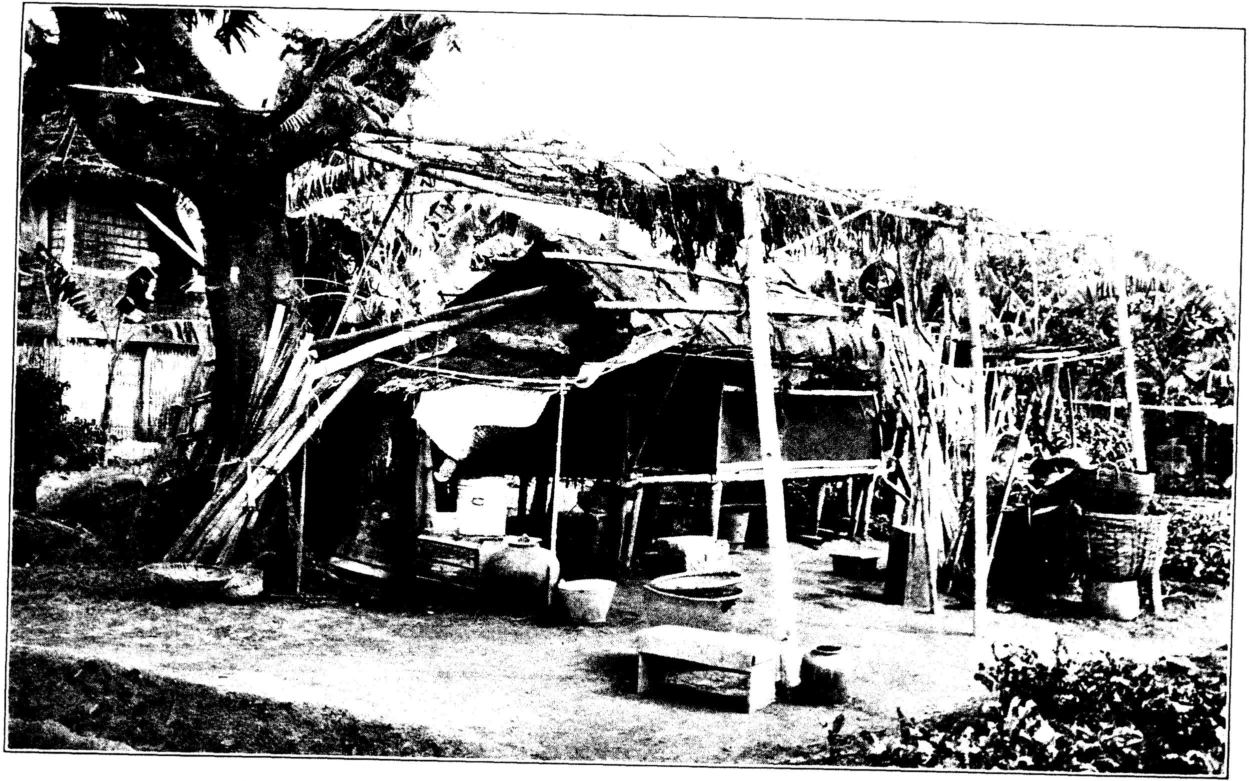
Materials must be moved about in the search for rats.



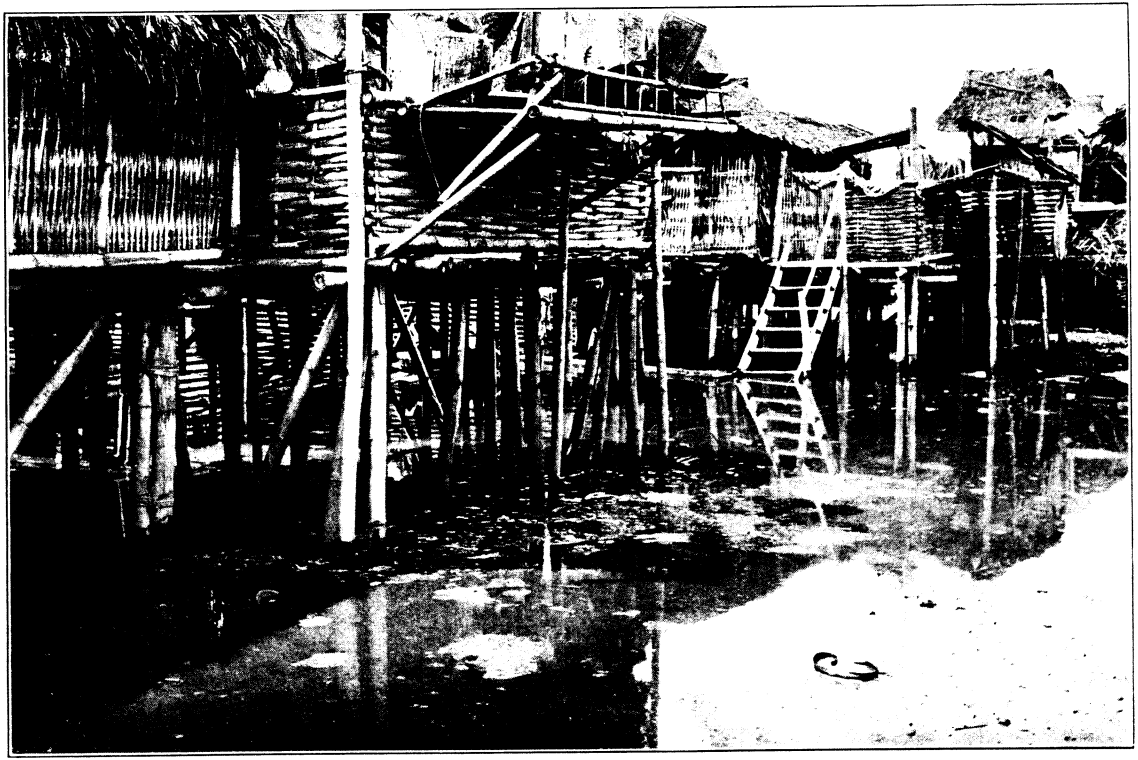
A rat-proof structure with solid cement base, solid concrete posts, and unboarded ceiling.



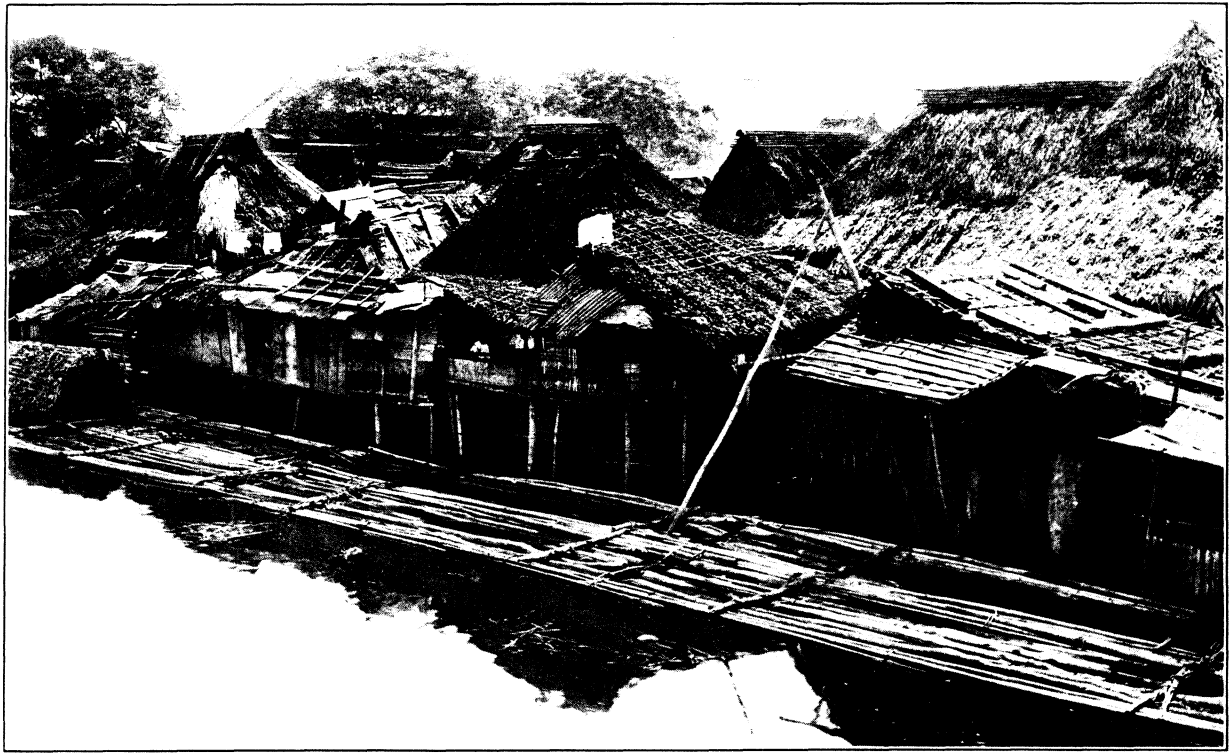
1226 Calle Juan Luna in which two cases of plague occurred.



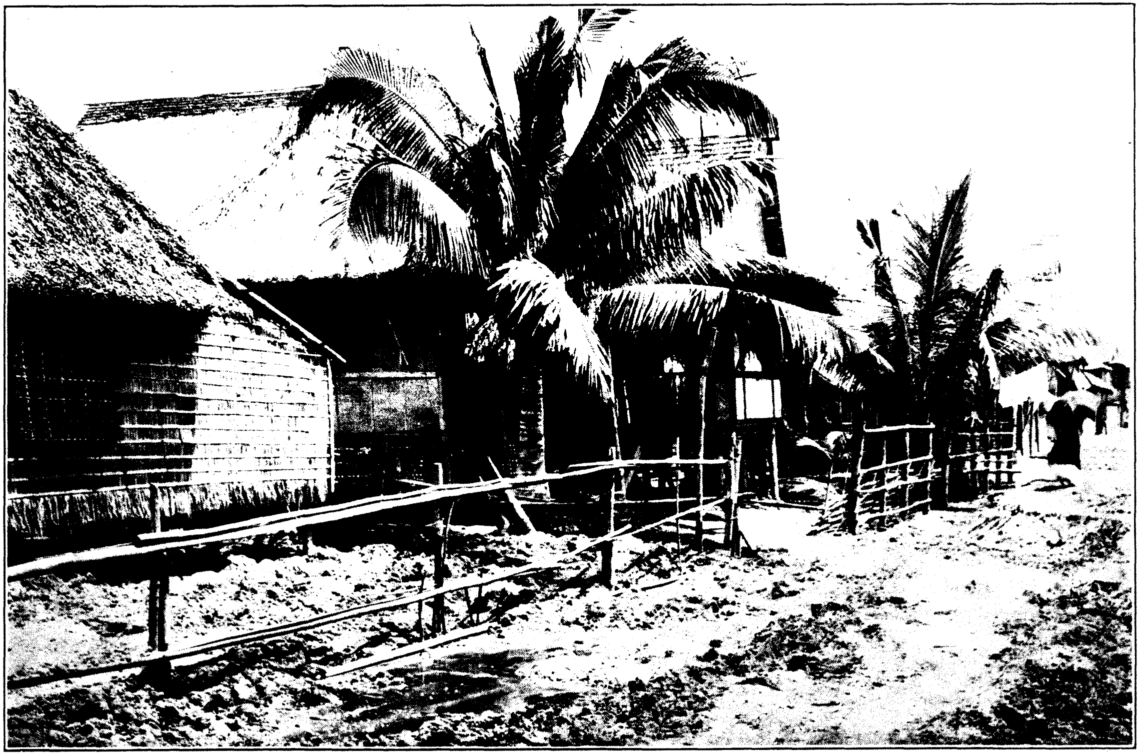
Another view of house at 447 Calle Conservador, Tondo, where infected rats were found.



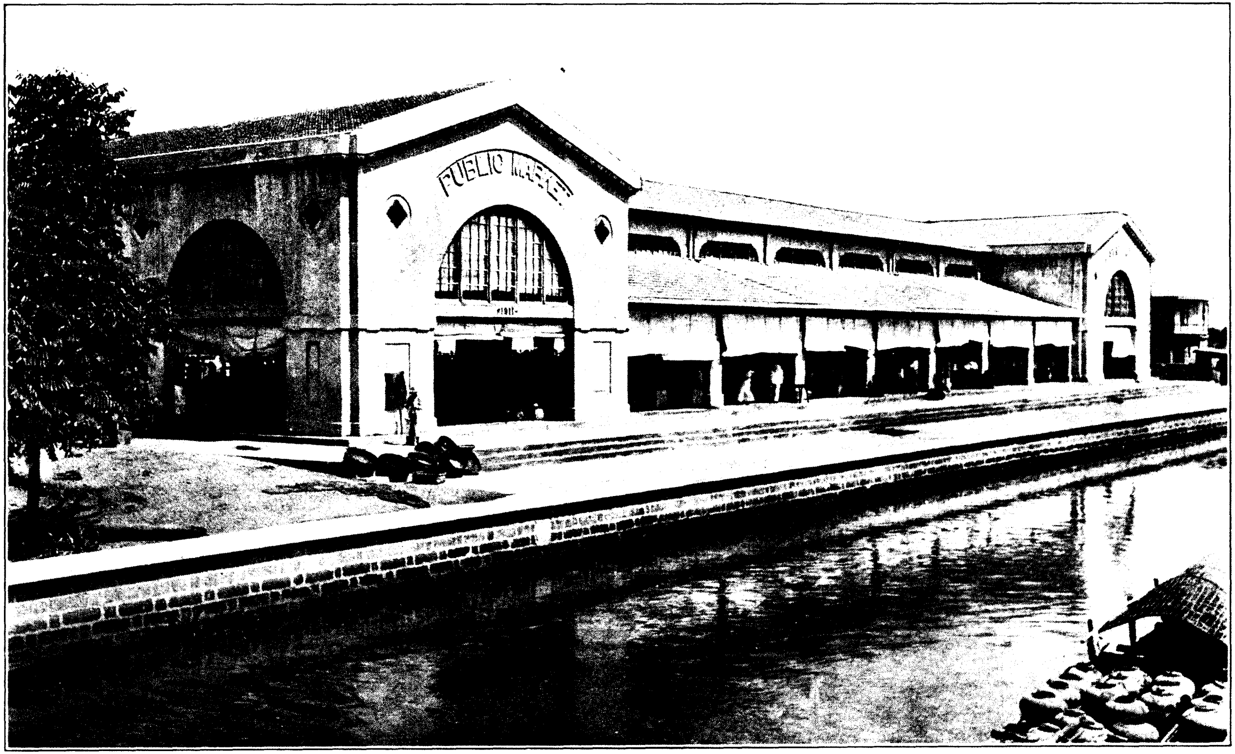
26 interior Calle Angustia. Tondo. showing low land.



Estero de la Reyna near Calle Moriones, Tondo. A 3-meter reservation is to be maintained along this canal bank.

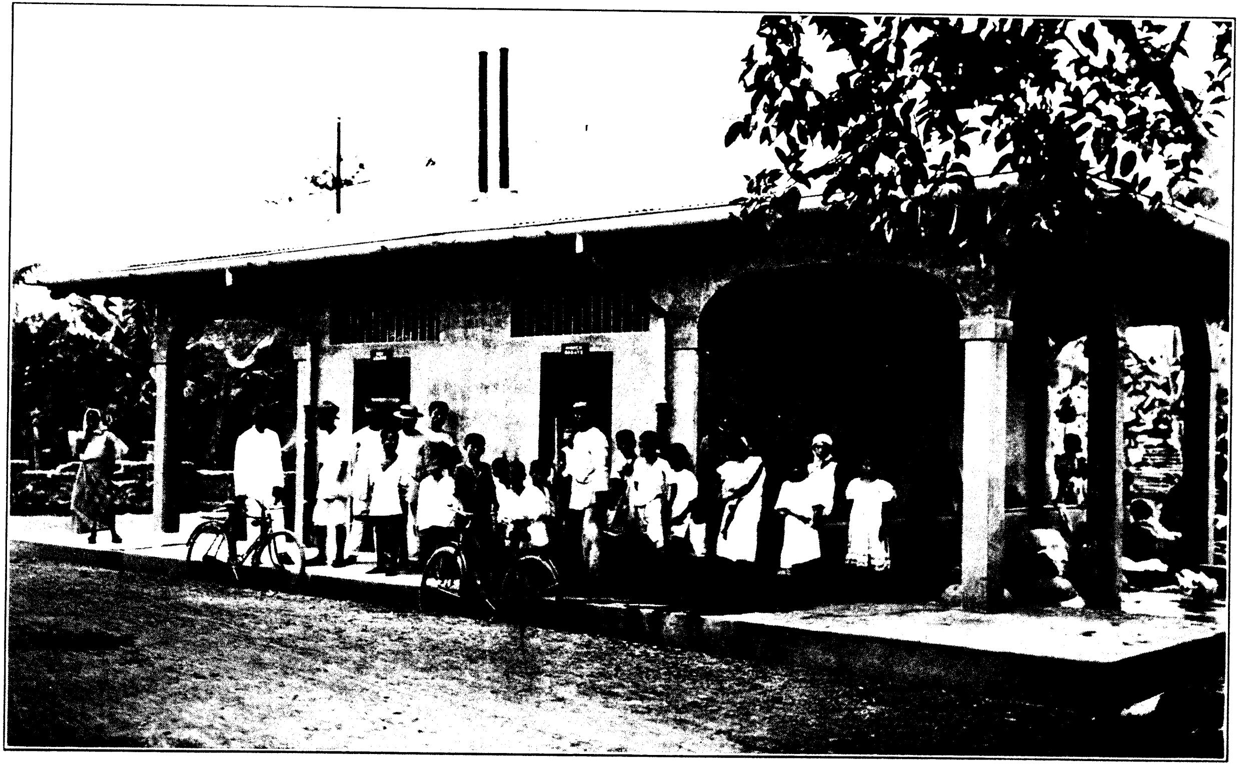


53 Calle Angustia, Tondo, filling in of low land.

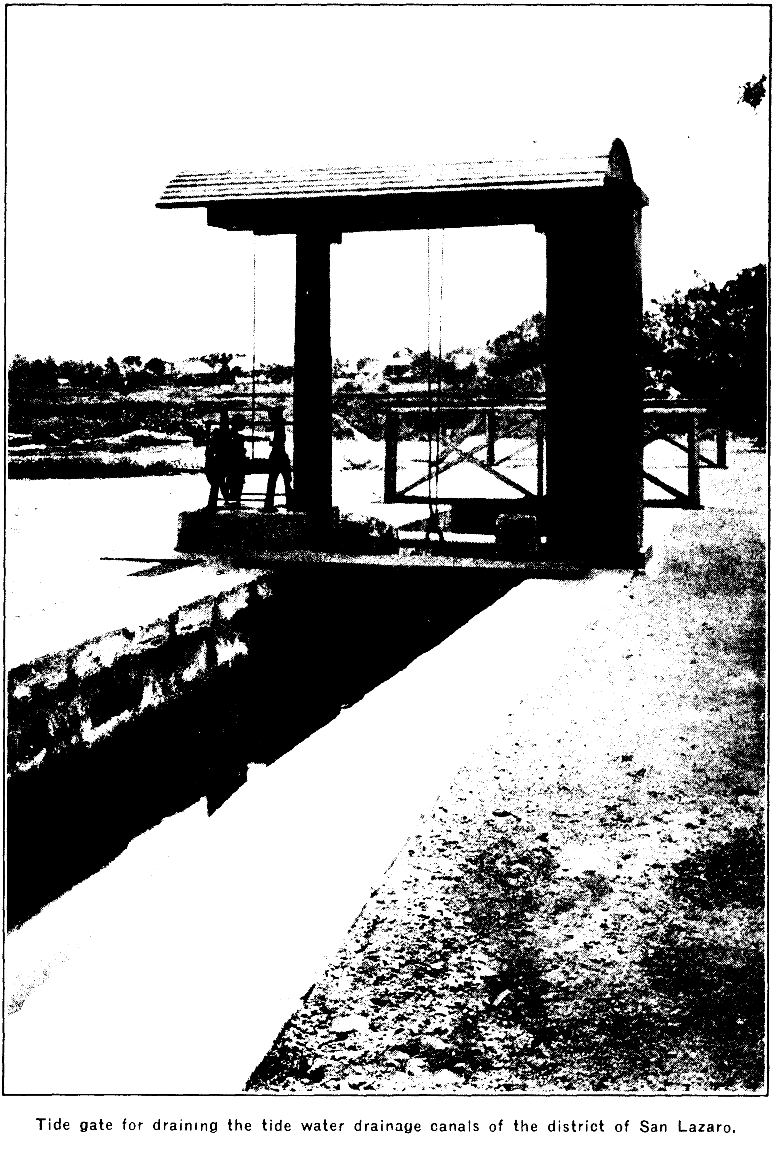


Paco Market. Manila.

Interior of Paco Market, Manila.



Public bathhouse, toilet, and laundry, Calle Lipa, Sampaloc, Manila.



Tide gate for draining the tide water drainage canals of the district of San Lazaro.